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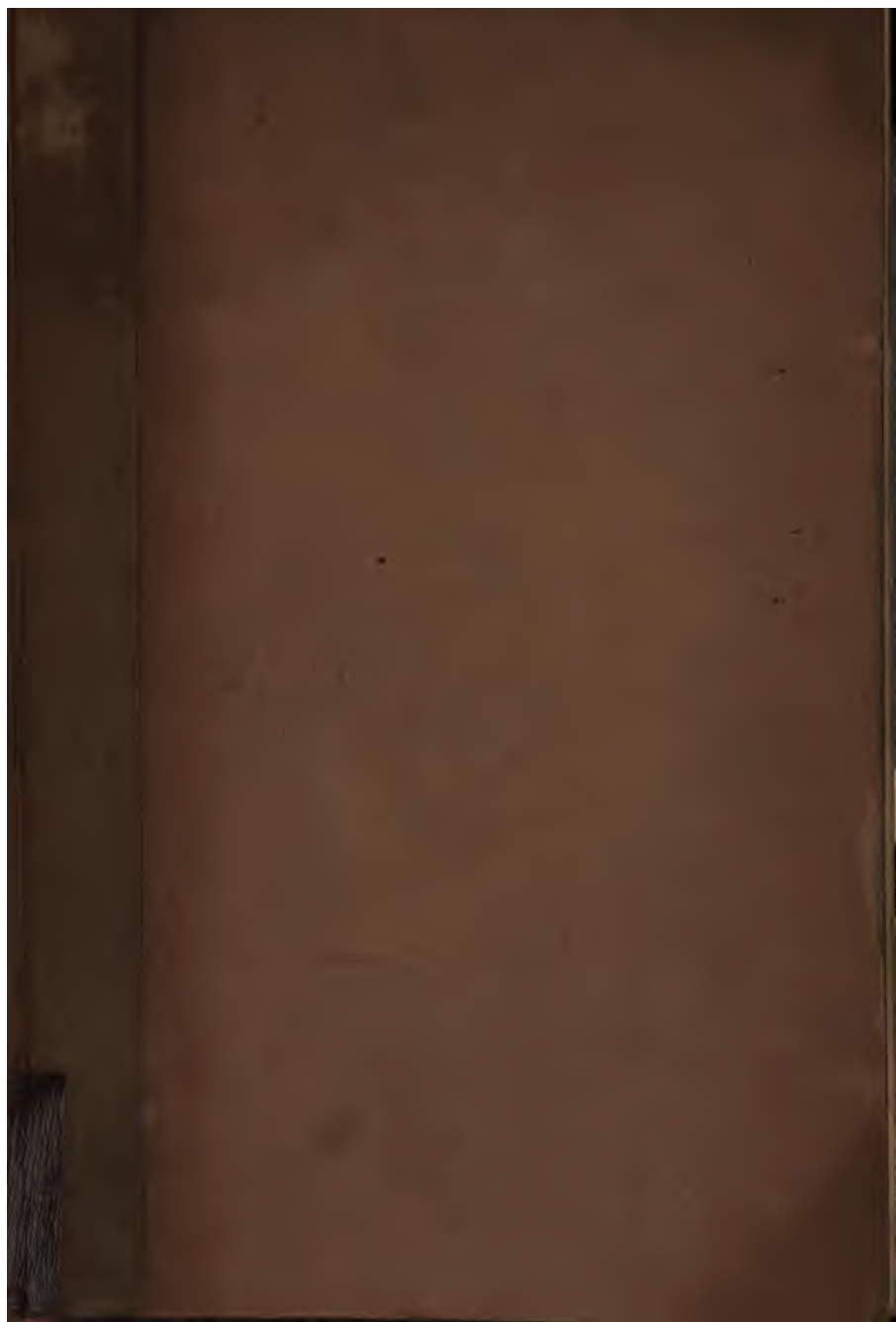
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**HARMONIOUS COLOURING:**

**ESPECIALLY AS**

**APPLIED TO PHOTOGRAPHS.**



THE  
PRINCIPLES AND PRACTICE  
OF  
HARMONIOUS COLOURING,  
IN  
OIL, WATER, AND PHOTOGRAPHIC COLOURS:  
ESPECIALLY AS  
APPLIED TO PHOTOGRAPHS  
ON  
PAPER, GLASS, AND SILVER-PLATE.  
BY  
AN ARTIST-PHOTOGRAPHER.

FOURTH EDITION.



LONDON:  
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AND MAY BE HAD OF ALL BOOKSELLERS.

1868

~~170. c. 32.~~  
170. m. 111.



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## PREFACE TO THE FIRST EDITION.

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A WORK intended to supply a want long felt and often expressed, scarcely needs any preface to explain the object of its appearance. With one or two inconsiderable exceptions, no attempt has been made to occupy the position we desire to fill, the greater part of the ground being entirely uncovered.

Our aim has been to unite simplicity with truth ; brevity with completeness. The most simple methods of practice, consistent with the principles recognised in true art, are explained with as much brevity as regard to perspicuity and attention to detail will permit ; the practical portions of each especial method of colouring being communicated by artists of experience, well skilled in their respective styles of painting.

It must be understood, however, that the treatment of a subject so large, in a book so small as this must necessarily be, can only be regarded as suggestive. To the thoughtful student we believe it will be sufficiently so to enable him, with average aptitude, care, and practice, to achieve the much-desired end—fidelity to nature, combined with artistic truth.

THE AUTHOR.

*February, 1859*

## PREFACE TO THE SECOND EDITION.

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IN preparing a Second Edition for the Press, within a few months of the publication of the First, the Author has availed himself of the opportunity of correcting a few minor inaccuracies, and of adding fresh matter in several departments of the work.

To extend its usefulness, and bring it within the reach of all, the price has been reduced from half-a-crown to one shilling. The coloured diagram which accompanied the first edition as frontispiece has been withdrawn ; but the additional matter now given, it is hoped, will more than compensate for its absence.

The Author has much pleasure in acknowledging the kind reception and high commendation which the first edition of this work received, both from the Photographic Press, and from Art and other Journals. He trusts that the present and future editions will be still more worthy of their approval.

*August, 1859.*

## PREFACE TO THE FOURTH EDITION.

---

THE entire exhaustion of two large English Editions, and one American Edition, of this little work in little more than three years, is a circumstance as gratifying as it was unexpected by the author; and, whilst it proves the necessity which existed for such a book, it also affords room for the belief that in this the necessity has been satisfactorily met.

In this Edition some new matter has been added. A chapter on retouching enlarged pictures in crayons, and colouring in pastels, will be found valuable in relation to the productions of the solar camera. The chapter containing "A few words on Portraiture," will, it is hoped, be found interesting and useful, in suggesting art-hints for the guidance of the photographic portraitist in his duties generally, and especially in producing the popular pictures, known as Card Portraits, or *cartes de visite*.

The aim of the Author has been to make this Manual as complete as its size renders possible, and to omit nothing which the rapid progress of photography rendered desirable in the art-companion of a photographer.

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## INTRODUCTION.



PHOTOGRAPHY may be said to have presented itself to the world almost without introduction. Considerably less than twenty years ago sun pictures were first heard of, and were then as rare as they were wonderful. They had scarcely ceased to be regarded as curiosities, before society was flooded with them, with a prodigality altogether unparalleled in the history of pictorial art.

Unfortunately, improvement in style has scarcely kept pace with prolificacy of production ; and in matters pertaining to art, quantity is but a poor substitute for quality. This tardiness in improvement is, perhaps, not difficult to understand. Photography is the offspring of science, not of art ; and artists have felt much disposed to regard it as an illegitimate upstart, trenching upon their province, and claiming a large share of what art had hitherto regarded as its inalienable inheritance. They have thus looked upon it with something of the same spirit with which handicraftsmen, in the mechanical trades, have ever regarded the progress of the machinery, which promised to declare their occu-

Rise and  
rapid  
progress

Tardy im-  
provement

## 2 PRINCIPLES AND PRACTICE OF COLOURING.

Jealousy of  
artists.

pation gone. Standing apart, they have watched with sullen jealousy its progress, and marked with satisfaction its deficiencies, in some of the essentials of their art. Meanwhile, scientific men have devoted themselves to simplifying the processes, and improving the machinery requisite for its practice. Competitive commerce has contributed its quota in cheapening the materials and apparatus; and, fascinated by the facilities thus afforded, of securing pictorial representations of anything and everything, animate or inanimate, thousands of votaries have given themselves up to the new study with an ardour and enthusiasm which have only been

Ignorance of  
art amongst  
photo-  
graphers.

equalled by their utter ignorance of true art or its requirements. Nay, more; many, carried away by the strong parental instinct as regarded their photographic bantlings, and transported by the beauties of their own handiwork, have been ready to defy their artistic challengers, and lay down new canons of pictorial beauty, "believing," as a recent writer caustically remarks, "that art has hitherto been but a blundering groper after that truth which the cleanest and precisest photography in their hands was now destined to reveal!"

· Presuming that the majority of the readers of these pages are photographers, professional or amateur, themselves producing the pictures they wish to colour we think it desirable, at the outset, to

urge upon their attention the importance of greater artistic culture than most of them have hitherto possessed, or deemed necessary. A cardinal blunder with them has been the supposition that a good photograph must necessarily be a perfect representation of nature, and that such an imitation of nature as the photograph presented, must be the highest triumph of art. Passing by, for the present, the first assumption, or, for the moment, for argument's sake, admitting it to be true, we must submit that nature has many aspects, but not all equally beautiful. As regards portraiture, the living model is seen in ever-shifting positions, and ever-varying aspects of light and shade, very few of which, however, it may be, would be suitable for portraiture, notwithstanding that they are all natural. That a portrait should be what some call natural, does not, therefore, by any means imply that it is perfect as a picture. It may be natural that a person should at some time wink, smirk, or frown, that he should occasionally stoop, loll, or stretch himself; but no one would for a moment dream of perpetuating these actions in a portrait. Notwithstanding, we have seen many photographic portraits in positions little better. Sitters placed upon a chair bolt upright, with head, body, and limbs in one line, a hand thrust forward sprawling on each knee, all arranged with such accuracy that if the figure were cleft down the middle, the halves

More artistic  
culture  
necessary.

Varied  
aspects of  
Nature.

#### 4 PRINCIPLES AND PRACTICE OF COLOURING.

**Bad posing.** would weigh the same to a fraction ! The expression accompanying this position being generally either one of the most listless fatuity, or, with every muscle on the strain, the eyes glaring, and the features contracted to a most diabolical frown, the idea is conveyed that the sitter is just gathering his energies for a fatal spring upon some victim. Others, again, carefully avoiding these enormities in arranging the sitter, affect positions of unstudied ease and carelessness, in which, however, everything like grace or dignity is alike wanting.

**Embodiment of character.** Nature, then, having such varied aspects, the aim of the true artist is to portray her in such aspects as best secure the embodiment of character in the model, combined with pleasing pictorial effect. It is here the painter possesses a great advantage over the photographer. It is on record that Sir Thomas Lawrence had fifty sittings for a portrait of the Duke of Wellington, and more than that for some others. Sir Joshua Reynolds had fifty sittings from Sir George Beaumont for one portrait, and as many from some other sitters. It will not be supposed for one moment that all this time was required for producing an accurate drawing of the model : the object was, to embody in the painting that expression which should most happily depict the character of the sitter. And whilst any attempt to rival art in this respect would

be as foolish as useless, there is no reason why the photographer, who desires to produce something beyond mere facial maps and diagrams, should not understand in what true success in art consists, and also attempt to approximate in some degree thereto. This will only be attained by aiming at a higher standard of artistic culture, and a thorough knowledge of the conditions of success. A happy accident, it is true, even in ignorant hands, will occasionally achieve the very best results, somewhat on the principle illustrated by the story in Pliny, where the throwing of a sponge charged with colour at the canvas, finished the foam on a dog's mouth so that it could not be improved. The painter might almost as well expect a successful repetition of this experiment, as the photographer without artistic knowledge and feeling to produce uniformly good results.

Facial maps.

Accidental success.

The photographer must not only give up his favourite notion, that he has only to depict Nature to succeed, but also that the most perfect photograph is necessarily an accurate reproduction of Nature as she is seen. The best product of the camera, unaided by art, is often very far indeed from being a transcript of Nature. The principles of photography, both chemical and optical, combine to render this inevitable. The intense photogenic action of some colours, and the almost entire

## 6 PRINCIPLES AND PRACTICE OF COLOURING.

absence of such action in others, chemically, and the necessary undue enlargement of advancing objects and diminution of retiring ones, mechanically, combine to remove the photograph as far from nature as many imagine the painting to be ; the difference being, that whilst it is the province of art to soften peculiarities, photography very often exaggerates them. The incipient wrinkle or trifling scar, which in nature is, it may be, hid by the brilliancy of complexion ; the slight freckle, which to the eye varies so little from the general tint of the skin as scarcely to excite observation, are at once searched out by the one huge cyclopean eye of the camera, and rendered with uncompromising distinctness in black and white. The red or golden tresses appear with raven blackness, whilst the blue eye, which in the photograph is as colourless as water, seems to have lost in depth of colour what the hair has gained. The most enthusiastic photographer has often felt his failure here, and has here acknowledged that the aid of art, in colouring, is pre-eminently needed. Again, it is a principle of art that the most important part of a picture should be best done, that in a portrait other parts should be so subordinated as to give due prominence to the head ; and herein it is true to nature. It is on the faces of those around as we look, whether we speak or listen ; it is there we look for the varying expression and

Photography  
often untrue.

development of character, and it would speak little for any of whom in their absence we remembered more of their dress than face. Photography, however, in its most perfect forms, knows no such discrimination. Every button, fold, and flounce is distinctly portrayed ; the varying texture of silk or satin, velvet or cloth, is rendered with surprising accuracy ; whilst the head, if not certainly worse done than the rest, is certainly worse in proportion, so that it appears no more important than, if not really subordinate to, the other parts of the picture. A painting of this description once under criticism, received its due meed of praise ; the several parts were separately commended, the position, the draperies, &c., after which the critic exclaimed : " Why, bless me, here's a head too ! "

In thus referring to the defects of photographic pictures, we must not be understood to depreciate photography : we simply insist on the necessity of the artistic element in applying it. We deny entirely that photographic portraits *necessarily* represent the sitter as having just gazed on the Gorgon's head. Let the photographic operator, whilst availing himself of every improvement in manipulation, acquaint himself with the laws by which the painter secures the semblance of nature ; let him learn how to arrange his subject, and choose his point of view ; how to secure a proper balance

Photography  
undiscrimi-  
nating.

What to  
learn.



Study the  
Great  
Masters.

of light and shade; in short, how to produce a *picture*, instead of a mere diagram. Let him remember also, that although many of his sitters may be disposed to use the words of Oliver Cromwell—"Paint me as I am, warts, and wrinkles, and all"—that no one will wish the warts to appear as wens, nor the wrinkles as seams and scars. Let him study the productions of the great masters in painting, both for position, drapery, disposition of light and shade, and colouring. A portrait secured under the best conditions of photography, guided by art, will be worthy of the best efforts of the colourist, and may, in his hands, fairly rival the finest miniature painting.

## THE PRINCIPLES OF HARMONIOUS COLOURING.

---

WE have already shown that a photograph, perfect as regards its mechanical and chemical results, may be very imperfect as a work of art. It is scarcely necessary to add, that sufficient taste and judgment may be used in its production, in the arrangement of position, and the distribution of light and shade, to entitle it to the name of a *picture*; but it may still be very imperfect as a *portrait*. The effect of colour is in many cases absolutely necessary to anything like a faithful rendering of the original. Necessity for colour.

To produce good results in colouring, it is not simply necessary to possess the manipulatory skill to imitate with some success the colour of the original. A first requisite in the education of the painter is a knowledge of the value of his colours—of their relations and harmonies—and of their effects in combination and juxtaposition. As in music, an utterly inexhaustible world of beauty and delight results from the varied combinations and sequence

## 10 PRINCIPLES AND PRACTICE OF COLOURING.

of seven different notes, so in painting, a source of beauty, scarcely more limited, results from the combination and arrangement of three primary colours ; and in painting, as in music, the beauty does not consist in any one colour, any more than it does in any single note, but in the *relation it is made to bear to others*.

Source of  
harmony.

It is true that the province of the portrait painter is, perhaps, more limited in this respect, than that of the painter of works of fancy and imagination, or even than that of the landscape painter ; whilst the scope of the colourist of photographic pictures is most limited of all ; still without some knowledge of the principles of harmonious colouring, he can scarcely hope to even approximate to the best results. And whilst in portraiture, in many points the painter is bound to reproduce, as nearly as possible, the colours inherent in his model, yet in the choice of colour for draperies, backgrounds, &c., more latitude is admissible ; and here he will avail himself of such analogies or contrasts of colour as, whilst producing a harmonious whole, give value and effect to the colours of the complexion. To aid the colourist in this respect, we shall give a very brief compendium of the leading principles pertaining to this subject, confining ourselves to their bare statement with as little comment as possible.

The source of all colour is light, and a beam of Source of colour. white light is divisible into three separate rays—blue, yellow, and red. These constitute the three *primary colours*, and by their combinations every possible hue is attainable. White light, when decomposed by passing through a prism, gives what is called the *solar spectrum*, which consists of the seven colours seen in the rainbow, arranged in the following order :—Violet, indigo, blue, green, yellow, orange, and red : and hence it was at one time supposed that each of these was an elemental colour. Subsequent observation has shown, however, that all but blue, yellow, and red were formed by these impinging upon, or overlapping each other.

These colours, in their varied combinations are called *hues*. These hues, when weakened by admixture with white are called *tints*; and when deepened by admixture with black, are called *shades*. The various gradations of tints and shades of one colour form a *scale*.

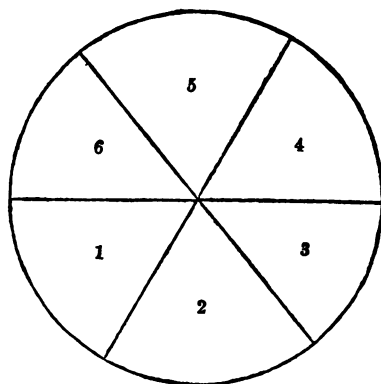
The presence in happy proportions of the three primary colours or their combinations, in a picture, produces *harmony*.

Any two primary colours mixed in certain proportions produce a *secondary* colour, which is Relations of colours. *complementary* to the remaining primary colour : thus, the mixture of blue and yellow produces green,

## 12 PRINCIPLES AND PRACTICE OF COLOURING.

which is complementary to red. The mixture of yellow and red produces orange, which is complementary to blue. The mixture of red and blue produces purple, which is complementary to yellow. This may be seen by trying the experiment suggested by the following diagram.

Illustrative  
diagram.



Divide a circle into six equal parts, numbered 1, 2, 3, 4, 5, 6, like the diagram. Let the spaces 1, 2, 3 be coloured blue ; 3, 4, 5 yellow ; and 5, 6, 1 red. It will be seen that the space 1 is now coloured purple by the combination of red and blue, and that it is placed opposite to its complementary, the remaining primary, yellow. The space 3 is coloured green by the combination of blue and yellow, and is opposite its complementary, the remaining primary red. The space 5 is coloured

Relations of  
colours.

orange by the mixture of yellow and red, and is opposite its complementary, blue.

These combinations may be carried to an almost unlimited extent, with similar results. Thus the combination of any two secondary colours will produce a tertiary, which is complementary to the remaining secondary. For instance, the mixture of orange and green produces citrine, which is complementary to purple; purple and green produce olive, which is complementary to orange; purple and orange produce russet, which is complementary to green, and so on.

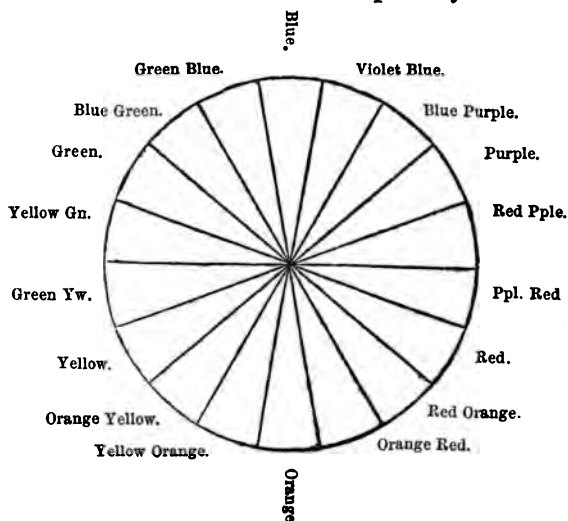
This statement of the relations of colours is not arbitrary, nor the result of taste or fancy; but is based on absolute inherent principles. They exist as a physical necessity of the organs of vision, as may be ascertained by a few simple experiments. If, for instance, a red wafer be placed on a sheet of white paper, and the eye steadily fixed on it for a few minutes, and then removed to another part of the paper, a similar spot will appear before the eye, but of the complementary colour to red—green. This spot, called an *ocular spectrum*, will continue for a few moments until it is gradually displaced by the white light reflected from the paper. If the experiment be tried with a blue wafer, the colour of the resulting spectrum will be orange; if with a yellow wafer, a purple spectrum is the result, and so on with the others.

Illustrative  
experiment.

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This principle applies to every variety and combination of tint ; if a red inclines a little to yellow, as in scarlet, then the complementary green will incline a little to blue, and become a bluish green. If, on the other hand, the red incline a little to blue, as in crimson, the complementary will incline a little to yellow, and become a yellowish green. These combinations may be so multiplied by gradations so delicate that it is impossible to enumerate them.

The nature of their relations may, however, be illustrated by the following diagram, in which the complementary of each colour will be found in the space directly opposite to it ; each pair yielding an harmonious balance of the three primary colours :



Each pair of colours, consisting of a primary and its complementary secondary, present, also, special contrasts peculiar to themselves. Thus blue is the coldest colour, and is also the most retiring; and orange, its complementary, is the warmest colour, and the most advancing. Every combination of colour, as it approximates to orange or blue, is warm or cold in its effect, and has the appearance of approaching the eye or receding from it in a picture.

Warm and cold, advancing and retiring colours.

Yellow is the brightest colour, and most allied to light; while its complementary, purple, is the darkest of colours. We may here remark, that white and black, which most completely contrast as light and darkness, are not regarded as colours: white, which is most like light, being supposed to represent a combination of all colours; and black, like darkness, an absence of both colour and light.

Light and dark colours.

Red is the most positive and exciting of all colours, whilst its complementary, green, is the most soothing of all colours.

Exciting and soothing colours.

It will be observed, that whilst each combination of two primary colours produces a new and perfect hue, each subsequent combination tends to produce neutrality; the neutral tints formed partaking, however, more or less of the special characteristics of the primaries to which they are most allied.

Neutral tints—how formed.



## 16 PRINCIPLES AND PRACTICE OF COLOURING.

**Effect of contrast.**

Complementary colours in juxtaposition mutually enrich each other, and produce what is called the harmony of contrast. Thus, purple and yellow of equal purity and intensity become each brighter from contact with the other, the yellow becoming intensified by the extra yellow rays reflected by the purple, and the purple gaining an accession of richness from the purple rays given out by the yellow. From the same cause neutral tints placed in juxtaposition with full hues appear to be tinged with the complementary colour of such hues. Thus grey placed in juxtaposition with red will assume the appearance of greenish grey, green being the complementary of red.

**Colours not complementary injured by proximity.**

Colours not complementary to each other are mutually injured by contact. Thus, blue and purple placed together are both injured ; the blue becoming greenish from the yellow rays emitted by the purple, and the purple assuming a russet tinge from the orange rays reflected by the blue. It will be seen from this that neutral tints placed in contact with full hues, should incline to the complementary of such hues, in order to produce the best effect. Thus, olive placed in contact with yellow, should, to produce the best effect, incline to purple rather than to green, purple being the complementary of yellow.

**Contrast of intensity.**

Beside the effect produced by contrast of hue,

that resulting from contrast of intensity is to be considered. If two tints of the same colour, but of different degrees of depth or intensity, are placed side by side, the deep tint will appear still deeper, whilst the light tint will appear still lighter, the difference in intensity appearing greatest at the points of contact. Contrasting colours, also, of different degrees of intensity, receive a double modification by contact; in brilliancy of hue as before described, and also in intensity, the deepest colour appearing still deeper, and the least intense appearing still more diluted. Hence all colours gain depth by contact with white, the white assuming the complementary tint of the colour near it. Black, on the contrary, has the effect of weakening the colours in its immediate neighbourhood. The effect of the several hues on black is varied in like manner, its depth being materially modified by contact with colours having a luminous complementary. Thus, black in juxtaposition with purple loses depth from being tinged with the yellow rays thrown out by the purple; in contact with blue or green it becomes rusty, from the orange or red rays reflected by these colours. Black is, on the other hand, intensified by contrast with orange, yellow, or red. The juxtaposition of grey, which is a mixture of white and black, gives brilliancy to all pure colours.

Influence on  
colours of  
white and  
black.

## 18 PRINCIPLES AND PRACTICE OF COLOURING.

Harmony of  
analogy.

Besides the harmony produced by judicious contrast, there is the harmony of analogy, resulting from a combination of the various gradations of one colour in its own scale, or of the hues and broken tints in the order in which they occur in the solar spectrum. An infinity of pleasing results may be obtained by the judicious arrangement of analogous tints in harmonious relations; being less striking, however, it requires much nicer perceptions and more skilful management to produce happy effects.

Harmony  
inherent in  
Nature.

We have said before that the laws which regulate harmonious colouring are not dictated by fancy, but are based on inherent and absolute relations. We may here remark, that a very little observation of Nature will afford pleasing illustration of both kinds of harmony. A striking illustration of the

Illustrations.

harmony of analogy is seen in the beautifully blended and graduated colours of the rainbow; and again, in almost every landscape, where the blue of the distance blends with the cool greens and greys of the middle distance, and these merge into the warmer greens, yellows, and browns of the foreground; whilst if the sun be setting in the landscape, every object is beautified by the play of golden light and purple shadow. With instances of the harmony of contrast, Nature teems, in every garden, field, and moor, as the

damask rose with its yellowish green leaf, the scarlet holly berry and its deep green foliage, and the almost unvaried mingling of yellow gorse and purple heather.

In applying these principles to the colouring of portraits, it may be well to remember that M. Chevreul,<sup>\* an authority.</sup> whose researches in the subject entitle him to the highest position as an authority, in treating of the harmony of colours as pertaining to the complexion, regards the *blonde* or fair complexion as always more or less allied to an orange tint throughout; "the colour of light hair," he says, "being essentially the result of a mixture of red, yellow, and brown, we must consider it as a very pale orange brown." By this, of course, we only understand that orange is the full hue to which *blonde* complexions<sup>Blonde complexion.</sup> most nearly approximate. In what is termed decidedly red hair, the orange is certainly decided enough, as also, although in a less degree, in auburn and chesnut hair, the approximation to orange growing less decided as the yellow or brown tint prevails. He adds: "The colour of the skin, although of a lower tone, is analogous to the hair, except in

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\* To the student who would render himself thoroughly familiar with the subject, we recommend M. Chevreul's work on "The Simultaneous Contrasts of Colours," as also Mr. Redgrave's excellent little "Manual of Colour."

## 20 PRINCIPLES AND PRACTICE OF COLOURING.

the red parts ; further, blue eyes are really the only part of the fair type which form a contrast of colour with the ensemble, for the red parts produce with the rest of the skin only a harmony of analogy of hue, or at most a contrast of hue, not of colours ; and the parts of the skin contiguous to the hair, the eyebrows, and eyelashes, give rise to a harmony of analogy, either of scale or of hue. The harmonies of analogy, then, evidently predominate in the fair type over the harmonies of contrast." When hazel eyes exist in the fair type, as is not unfrequently the case, in conjunction with chesnut hair, the harmony of analogy is complete. In the various complexions generally classified under the term *brunette*, in which black or dark hair prevails, we have, on the other hand, the harmony of contrast prevailing. "In fact," observes M. Chevreul, "the hair, eyebrows, and eyes contrast in tone and colour, not only with the white of the skin, but also with the red parts, which in this type are really redder, or less rosy, than in the blonde type ; and we must not forget that a decided red associated with black, gives to the latter the character of an exceedingly deep colour, either blue or green."

Brunette  
complexion.

Value of  
these prin-  
ciples to the  
colourist.

A proper understanding of the principles we have here briefly indicated will enable the

colourist, whilst preserving fidelity to nature in the points absolutely inherent in the model, at the same time to so manage the draperies, background, &c., as to give value to the complexion, and produce a perfect and harmonious picture.

The versification of maxims, of any kind, is such an aid to the memory, that it has been called the "shorthand of thought;" and we shall scarcely need to refer to the trite quotation from Fletcher of Saltoun, in which he declares that the verse of a country exercises a higher influence than its laws, to justify us in reprinting the following lines,\* which aptly embody the principles to which we have devoted this brief chapter:—

### *The Relations and Harmonies of Colour.*

*Blue—Yellow—Red*—pure simple colours all  
(By mixture unobtained) we PRIMARIES call;  
From these in various combinations blent,  
All other colours trace their one descent.

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\* The lines are by Henry Hopley White, Esq., to whose courtesy we are indebted for permission to publish them. They were written to accompany the beautiful diagram illustrating the relations of colours, which, by Mr. White's permission, appeared as frontispiece to the first edition of this work. The lines and coloured diagram are now published on a separate sheet, by Mr. Newman, Soho Square, and will be found valuable for use in schools, and by all students of colour.

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Each mixed with each—their powers combin'd diffuse  
 New colours—forming SECONDARY hues :  
 Yellow with red makes *Orange*, with blue—*Green*,  
 In blue, with red admix'd, is *Purple* seen.  
 Each of these hues, in *Harmony* we find,  
 When with its complementary combined ;  
 Orange with blue, and green with red, agrees,  
 And purple tints, near yellows, always please.  
 These secondaries TERTIARIES produce,  
 And *Citrine—Olive—Russet* introduce ;  
 Thus green with orange blended forms citrine,  
 And olive comes from purple mixed with green ;  
 Orange, with purple mix'd, will russet prove ;  
 And, being subject to the rule above,  
 Harmonious with each tertiary we view  
 The complemental secondary hue :  
 Thus citrine—olive—russet harmonise  
 With purple—orange—green, their true allies.  
 These hues, by white diluted, *Tints* are made,  
 By black, are deepen'd into darkest *Shade*.  
 Pure or combin'd, the primaries all three,  
 To satisfy the eye, must present be ;  
 If the support is wanting but of one,  
 In that proportion harmony is gone :  
 Should red be unsupported by due share  
 Of blue and yellow *pure*—combin'd they are  
 In green—which secondary, thus we see,  
 The harmonising medium of all three.  
 Yellow for light *contrasts* dark purple's hue,  
 Its complemental, form'd of red and blue.  
 Red most *exciting* is—let Nature tell  
 How grateful is, and *soothing*, green's soft spell.  
 So blue *retires*—beyond all colours *cold*,  
 While orange *warm—advancing* you behold.  
 The union of *two* primaries forms a hue,  
 As perfect and decided as 'tis new ;  
 But all the mixtures which all *three* befall  
 Tend to destroy and neutralise them all ;  
 Nay, mix them—three parts yellow—five of red —  
 And eight of blue—then colours all are fled,

When primaries are not *pure*—you'll surely see,  
Their complementals *change* in due degree ;  
If red (with yellow) to a scarlet tend,  
Some blue its complemental green will blend ;  
So if your red be crimson (blue with red),  
Your green with yellow would be varied ;  
If yellow tends to orange, then you find  
Purple (its complement) to blue inclin'd ;  
But if to blue it leans, then mark the change,  
Nearer to red you see the purple range.  
If blue partakes of red—the orange then  
To yellow tends ; if yellowish—you ken  
The secondary orange glows with red.  
Reader, farewell ! my lesson now is said.

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## WATER COLOURS.

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THE colours required for colouring photographs are the same as are used for miniature painting, with such difference in their combinations as the tone of the photograph renders necessary. The following list comprises all that are necessary: if used perfectly pure, they will not injure the photograph.

Antwerp Blue.	Chinese White.
Bistre.	Chrome Yellow, 1, 2, 3.
Black Lead.	Cobalt Blue.
Blue Black.	Cologne Earth.
Bright Roman Ochre.	Constant White.
British Ink.	Crimson Lake.
Bronze.	Dragon's Blood.
Brown Madder.	Emerald Green.
Brown Pink.	French Blue.
Burnt Carmine.	Gallstone.
Burnt Sienna.	Gamboge.
Burnt Umber.	Green Bice.
Cadmium Yellow.	Green Oxide of Chro-
Carmine.	mium.
Chalon's Brown.	Hooker's Green, 1, 2.
Chinese Vermilion.	Indian Lake.

Indian Red.	Prussian Blue.
Indian Yellow.	Prussian Green.
Indigo.	Purple.
Intense Blue.	Purple Brown.
Intense Brown.	Purple Lake.
Italian Pink.	Purple Madder.
Ivory Black.	Raw Sienna.
King's Yellow.	Raw Umber.
Lamp Black.	Red Chalk.
Lemon Yellow.	Red Orpiment.
Light Red.	Rose Madder.
Madder Carmine.	Roman Ochre.
Malachite Green.	Sap Green.
Mars Brown.	Scarlet Lake.
Mars Orange.	Sepia.
Mars Red.	Sepia, Page's.
Mars Violet.	Sepia, Roman.
Mars Yellow.	Sepia, Warm.
Naples Yellow.	Smalt.
Neutral Tint.	Terra-verte.
Olive Green.	Ultramarine.
Orange Ochre.	Ultramarine Ashes.
Orange Vermilion, 2.	Vandyke Brown.
(for Scarlet).	Venetian Red.
Payne's Grey.	Verditer.
Permanent Crimson.	Vermilion.
Pink Madder.	Yellow Lake.
	Yellow Ochre.

Colours  
and their  
qualities.

**CARMINE.**—This is a brilliant red, inclining to crimson, very clear in its pale washes, and intense in its full touches. Being somewhat fugitive, it requires using with caution in flesh tints.

**BURNT CARMINE** is a rich deep crimson, very useful in the deepest touches of drapery.

**ROSE MADDER.**—A most valuable colour for flesh ; its pale washes are delicate, clear and transparent, and very permanent.

**PINK MADDER.**—Similar, but a little deeper in tint.

**CRIMSON LAKE.**—Somewhat similar to carmine, but not so brilliant ; chiefly useful in draperies.

**VENETIAN RED.**—A beautiful colour for flesh ; works well, and is permanent. Its pale washes are very clear, and, slightly modified with Indian yellow, it forms, in the hands of the miniature painter, a valuable general tint for most complexions, but for photographs is often too deep.

**LIGHT RED** is similar in general character, but, more inclining to orange.

**INDIAN RED.**—A powerful red of a purplish hue works well, and is durable ; useful, alone and in combinations, as a shadow for flesh,

**VERMILION.**—A very brilliant red not generally

suitable for flesh tints, as it is heavy and does not wash well. With a little lake it is useful for the lower lips of children.

ORANGE VERMILION, No. 2. — Works better than the preceding, and, as its name imports, has a slight inclination to yellow. (This colour of Newman's is the nearest approach to pure scarlet that is permanent.)

ROMAN OCHRE.—Useful for dark flesh, as well as for draperies. It is also used in combination with sepia for light hair.

YELLOW OCHRE.—Used in combination for light hair, and also in landscape backgrounds.

INDIAN YELLOW.—A brilliant and intense yellow, which works well. From its purity of tint it is a most useful yellow for mixing in flesh tints. For many photographs, however, it is too intense.

CADMIUM YELLOW.—A very brilliant and permanent yellow for draperies. Useful in forming orange tints.

GAMBOGE.—A fine rich yellow, useful in forming green combinations; washes well, but is not suitable for flesh.

LEMON YELLOW.—A beautiful light, vivid and permanent yellow, useful in draperies for high lights.

**YELLOW LAKE.**—A bright transparent yellow, but somewhat fugitive.

**ITALIAN PINK.**—A very similar yellow to the preceding, but deeper and richer.

**NAPLES YELLOW.**—A fine light yellow, valuable when mixed with pink madder as a general wash for flesh; and alone, where a body colour is required for the high light. Like most mineral colours, it is injured by impure air, from which the picture should always be carefully protected.

**RAW SIENNA.**—A brownish yellow, permanent, and works well. Useful in backgrounds.

**BURNT SIENNA.**—A fine transparent brown of an orange tint, useful in warm dark complexions, and in backgrounds.

**BROWN MADDER.**—A rich russet brown, permanent, and works well; useful for the darkest touches in flesh, and for lowering red draperies. Combined with blue it makes a delicate grey, useful in flesh shadows.

**BURNT UMBER.**—A good brown, useful for hair draperies, and backgrounds.

**SEPIA.**—A cool transparent brown; useful alike in its pale washes and full touches. Useful for hair, either alone or in combination. With lake, or lake

and indigo, it forms a fine transparent black for the shadows of draperies of either silken or woollen texture.

**WARM SEPIA.**—Similar in all its characteristics, but of warmer tint.

**VANDYKE BROWN.**—A fine warm brown. From its great transparency it is useful in glazing many other tints, which it deepens and warms. Care is required in using it, as it is apt to work up when a great body is used.

**NEUTRAL TINT.**—A useful grey, which may be modified for almost any shadow by the addition of other tints.

**PURPLE MADDER.**—A deep warm purple of great richness and intensity; works well and is permanent. Useful for very deep warm shadows.

**FRENCH BLUE, OR FRENCH ULTRAMARINE.**—A fine blue, very nearly resembling the tint of real ultramarine, whilst it works better.

**COBALT.**—A bright permanent blue, which enters largely into the shadow colours of flesh.

**PRUSSIAN BLUE.**—A deep blue, useful in draperies, and forming with carmine all varieties of purple and violet. It should not be used in flesh, as it is apt to turn green.

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**INDIGO.**—A good dark blue, useful in combination for forming a variety of greens for backgrounds.

**IVORY BLACK.**—A rich transparent black, a little inclining to brown in its washes.

**CHINESE WHITE.**—A valuable permanent white of much body, and working well. Useful for the light of eyes, lace, &c.; also for giving body in draperies.

#### BRUSHES, &c.

Pencils—to  
choose.

The pencils should be sables of moderate size. When charged with water they should terminate in a good point with no uneven hairs, and should spring well when pressed with the finger. For large washes, a few good camel hair pencils will be necessary. For hatching, a sable, the point of which has been worn off, may be used. Small pencils should be avoided, as tending to give a feeble, wiry effect, very undesirable. Good pencils are indispensable to comfort in working, as well as to the production of perfect result.

#### THE PHOTOGRAPH: TO CHOOSE AND PREPARE IT.

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110-

To obtain good results in colouring, it is necessary that the photograph approximate in some

degree to excellence. It is important that the distribution of light and shade in the picture be effective and natural, that it be sharp and in focus throughout, and that it be a clear, bright, well-defined photograph.

A direct vertical light for the production of the portrait should be avoided, as the effect of light and shadow so produced is generally unnatural; the intense light at the top of the head often giving to dark glossy hair the appearance of greyness, whilst the shadows under the eyes, nose, and chin are unpleasantly heavy. A portion of skylight, joining a side light, both facing the north, will give the best picture. The sitter should be placed back a little from under the skylight, the head a little quartering from the side light. The whole figure will be then well illuminated; the deepest shadow on the face (we are now speaking of a three-quarter view, which, generally speaking, is best) will be on the retiring cheek; whilst the partial profile will be well lighted and clearly defined on the shadowed cheek. The position of the body in relation to the head is a matter of taste. When the head and body are both placed in one direction, the effect is most simple; whilst the body turned in one direction, and the head in another, gives more animation to the figure. Care must be

Management of light.

Position of the sitter.



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taken, however, not to give too much action to the figure, or to give it a strained, unnatural posture.

**Background.** The background should be of a tint somewhere midway between the highest lights and the deepest shadows of the picture, in order to give due relief to all parts, and produce the best results in colouring. If the sitter be placed a few feet from the screen used for a background, the figure will possess greater relief. Care should be taken to give sufficient space for background above and around the figure. Nothing looks clumsier than a picture with scarcely any background, as though the sitter were pinched for space. The position of the figure on the background is the only means of suggesting the size and proportions of the model. A figure placed high on the plate suggests a tall person, and the figure low down in the picture a short one. It is well to avoid crowding the background with useless objects, as columns, curtains, vases, &c. These, if necessary, can be painted in with better effect than if taken by the camera. A background should, however, be devoted to repose, in order to give effect to the principal figure or object.

The photograph should be, as we have said, clear, well defined, perfect, brilliant, and not too dark, and free from stains and spots. If the

picture be too dark, it will be impossible to produce a clean, delicate effect in colouring.

For water colours, the tone of the picture is of <sup>Tone of the photograph</sup> considerable importance. A warm neutral tint or grey is the best tone for colouring. Heavy shadows of purple brown, or of an inky tone, are very undesirable, from the want of harmony between these tones and the natural shadows of flesh. For fair complexions a light impression is more necessary than for a dark person, but too deep an impression is in no case suitable. At the same time it must be remembered, that if the impression is so light that the half tones are wanting, it will be difficult to restore them in colouring.

The first step in preparing the photograph is to <sup>Mode of mounting.</sup> mount it on card-board. For this purpose, a solution of gelatine or clean fresh glue should be used; paste or gum-water should be avoided, as it is apt to generate acid which would injure the photograph. The gelatine or glue should be brushed over the back of the photograph, which should then be laid on the board. The card-board may also be moistened, to prevent the warping; but this is not necessary if the gelatinised photograph is placed on the board at the right moment. A sheet of clean paper should now be laid on the surface, and then pressed

firmly and gently down; the picture should then be put under a weight.

Preparation  
of the  
surface.

This done, its further preparation will depend somewhat on the process by which it was produced. As the various photographic papers, and the different processes to which they are subjected by photographers, yield almost every variety of surface, it is impossible to lay down any universal mode of procedure in preparing the surface to receive water-colours. We may, however, describe the surface required.

Preparation  
of photo-  
graph.

Many photographers, in fixing and washing their prints on salted paper, wash them in boiling water, and thus entirely discharge the size from the paper, whilst others do this in a partial degree. The effect of this is, that water colours applied to the unsized surface are at once absorbed, rendering it impossible to work with them. To apply water colours to paper with any facility and effect, it is necessary that it possess a surface on which the colours wash easily; sinking in just sufficiently to allow other colours to be worked over them without washing up. To obtain this surface, the photograph will invariably require some preparation. Some colourists have recommended the use of parchment size, with the addition of a little alum. In a matter of such importance, however, and which so materially

affects comfort and success in working, we recommend the colourist to obtain "Newman's Preparation" for the purpose, which, applied to the photograph, gives a fine surface, on which the colours wash easily, and enables the amateur to produce the most brilliant results.

The preparation must be applied with a camel's hair brush, and spread evenly and carefully all over the surface of the photograph, which must be then suffered to dry. In most cases one application will be sufficient, which may be ascertained by trying a corner with a little colour. If it wash on easily without sinking into the surface too much, it is ready for colouring. If, on the other hand, it is much absorbed, it will, especially if the colourist be a tyro, require another application. Before commencing to colour, it will be as well gently to wash the surface with a brush and a little clean water, and then dry it.

Some albumenised paper will not require any preparation, but for the most part it will be improved by a single application. Where the colours work greasily on albumenised paper, a little prepared ox gall may be used with them. Ox Gall.

Besides its use for preparing the surface to receive the colour kindly, this "Preparation" will be found invaluable as a medium for adding to the water colours in use. It will mix readily

with water in any proportion for this purpose, but has the valuable property of becoming insoluble when dry, so that a wash of colour with which it has been mixed is in no danger whatever of working up in applying another wash over it. The colourist is thus enabled to obtain a depth and transparency resembling the effect of oil colours, and altogether unattainable by mixing the colours themselves on the palette.

In using it, a small portion of colour only should be mixed at one time, not more than is required for immediate use, as when the colour mixed with it has once dried on the palette, it is not available for further use. The palette and pencils should be washed also before the colour hardens, or it will be troublesome to remove.

Numerous preparations and sizes have been proposed for applying to the photograph prior to colouring, but when tried have been found wanting. Of this "preparation" we can, however, speak with unhesitating confidence, as equally valuable for applying to the photograph to be coloured in oil or water, or as a medium for use with the latter.

Preparations  
for dry  
colours.

The "preparation" may often be used with advantage both to salted and albumenised paper, to which dry colours are to be applied, if it be found they do not "bite," or adhere sufficiently.

## METHOD OF COLOURING.

Although the colouring of photographs differs in some essential particulars from miniature painting, yet as both the manipulation and the management of the colours are similar, it is necessary at the outset for the amateur to know something of the principles on which painting in water-colours is based.

Principles of  
miniature  
painting.

The photographer entirely unacquainted with these principles will probably be surprised to ascertain that, by mixing his colours to the desired tint, and then simply washing them on to his photograph, he will produce but a woefully meagre and unsatisfactory result. The effect would be little better than a flat insipid imitation of the multitude of coloured prints which abound in the windows of stationers' shops about the 14th of February. There is, however, scarcely any part of a human face so flat as to be correctly represented by a simple wash. It is so full of undulations that the gradations of light and shade are almost innumerable, and these gradations between the high lights and deepest shadows are known as "pearly tints," "demi-tints," or greys. In using these, and indeed all gradations of colour, upon the local flesh-tint, in order to obtain transparency and depth, it is necessary to

Effect of  
"washing"  
on the  
colour.

have recourse to "hatching," or "stippling."

**Hatching.** Hatching consists in working on the colour in short strokes, following as nearly as possible the form of the features; that is, the strokes somewhat horizontal on the forehead, and circular about the eyes, mouth, and general contour. These strokes are then crossed with similar ones, avoiding, however, the formation of direct right angles. This should be done with a firm touch, making each little stroke as even as possible.

**Stippling.** Stippling is a somewhat similar process, only fine dots with the point of the brush are used instead of lines. The effect in both cases is to give depth and transparency, and at the same time retain greater purity of tint than could possibly be effected by any washing of mixed colours.

**Advantage  
of copying  
miniatures.**

The amateur would do well at the outset to procure if possible a few well-painted miniatures, of which he should then obtain photographic copies. These he should proceed to colour, carefully copying the various tints of the originals. He will, by this means, obtain a knowledge of the various colours used in producing the desired effect in the original, and of the modifications of these colours rendered necessary by the tone of his photograph.

**Tone of  
photograph.**

One of the greatest difficulties the beginner will meet with, is this want of harmony in many cases between the tone of the photograph and shadow

tints required in the coloured picture ; and as both perpetually vary, no rule can be given for avoiding the difficulty. We can only reiterate as a general rule, that warm grey-toned photographs are best for colouring ; that for fair persons—especially for ladies and children—a light impression, free from heavy, abrupt shadows, but perfect in definition and half-tone throughout, is best ; for dark persons especially strong-marked men's heads, a more vigorous impression may be used with advantage.

The novice should study to acquire a firm, free touch with the pencil ; having a distinct conception of the object of each stroke, endeavour to effect that object by one bold touch rather than by several hesitating attempts. Remember that in water colours the first tints must be kept pure and brilliant, as they may be easily lowered afterwards to any required tone ; but once rendered dull or muddy looking, nothing can restore their purity.

Method of working.

At the risk of some repetition, we will add to these preliminary remarks a score of maxims, which apply equally to every mode of colouring, whether in oil, water, or dry colours. The colourist will do well to store them carefully in his memory, and have them at all times ready for application :—

- I. Flesh, as it retires from the eye, appears to grow colder in tone.

Maxims in colouring.



- II. The edges of all cast shadows are grey.
- III. The high lights of flesh should be of a yellowish-white.
- IV. A judicious subordination of the half-lights to those which are more prominent ensures brilliancy.
- V. As light is colour, every gradation to shadow is a gradation from colour ; and the colour in shadows, therefore, should never be too bright.
- VI. Local colours, are not found either in light or shadows.
- VII. Cold colours, or those approximating to blue, retire.
- VIII. Warm colours, or those approximating to orange, advance.
- IX. Contrasts give brilliancy of effect ; but they should never be violent or inharmonious.
- X. The style of execution should vary with the subject, to aid in expressing character ; vigorous and bold in a man, delicate and tender in a woman.
- XI. Colours should be laid with as little rubbing with the brush as possible, to keep them fresh and bright.

- XII. Avoid harshness. Let every line be softened ; for in nature there are no real outlines, although the boundary of sight is distinctly marked.
- XIII. Keep all cast shadows of one tone, and always warm (except at the edges), varying of course with the local tint.
- XIV. Keep reflected lights warm, unless the object from which they are derived is visible ; in that case, they partake of its especial colour.
- XV. Where the outline of a figure is ungraceful, it may judiciously be lost to some extent in the shadow of the background.
- XVI. Massing lights and shadows together will ensure breadth and grandeur of effect. A skilfully-managed background will greatly aid in this respect.
- XVII. Carefully preserve transparency in the shadows.
- XVIII. Colours should be kept pure and transparent ; truthful to the subject, and harmonious both with each other and the nature of the picture.
- XIX. Every part of the background should appear to retire from the figure, which should never seem to be cut in or inlaid.

XX. The most careful manipulation and elaborate finish will be tame and ineffective without a perpetual attention to the proper preservation of breadth of light and shade.

Reference  
to the  
duplicate.

A constant reference to the duplicate photograph will enable the colourist to preserve the likeness in his picture : and constant attention to these maxims will enable him to give it some value as a work of art.

## TO PAINT THE HEAD.

To try if the  
photograph  
will receive  
colour.

The photograph being prepared, ascertain that it is in a condition to receive the colour by trying one corner. If the colour be absorbed too much, another sizing will be desirable ; but whilst a slight absorption of the colour renders more care necessary, it has the advantage of enabling the artist to gain depth and transparency, by working over his previous painting without disturbing the colour.

Position for  
working.

The photograph should be placed on a small desk, the light falling on it from the left hand. A piece of clean paper should be kept over the lower part, on which to rest the hand whilst painting the

head, otherwise it will get greased with the hand, and receive the colour with difficulty. A duplicate copy, well and strongly defined, should always be immediately at hand for constant reference. Setting the palette.

In setting the palette for flesh, the miniature-painter generally uses for the local colour a wash of Venetian red and Indian yellow. This is not, however, found most suitable for the same purpose in colouring photographs; the slightly yellow hue of the lights of most photographs rendering this combination too intense. Naples yellow,\* with a little madder pink, will be found more useful for the general wash, the slight opacity of Naples yellow having a good effect in softening the harshness of the shadows too common in many photographs. It is necessary here to remark, that there are two tints of Naples yellow sold, one of a greenish tone, and the other more cream-coloured; it is the latter we are now recommending.

Commence by giving the retiring shadows of the forehead, eyes, and mouth, a wash of grey, composed of Naples yellow and cobalt, the green Commencing to colour.

\* Some artists object to the use of Naples yellow in flesh, from the fact that it is injured by exposure to impure air. The photograph itself, however, is injured by impure air, and it is always expected that the finished picture will be carefully sealed from all contact with the atmosphere, so that this objection possesses little weight. Lemon yellow has been suggested as a substitute, but it is of a tint altogether unsuitable for flesh.

#### 44 PRINCIPLES AND PRACTICE OF COLOURING.

Colouring  
the hair.

The eyes.

The lips.

Shadows of  
the face.

or blue tint prevailing, as the complexion is dark or fair. Now give a general wash of Naples yellow with a little pink madder, keeping the colour pure and brilliant, and not too deep in tint. Whilst this is drying, the hair may be coloured, the tone of the photograph, of course, materially modifying the selection of tints to be used, a list of which will be found in another place. In some heavy photographs, it will be necessary to use a little body colour for the high lights. The eyebrows and eyelashes may now be touched, and the pupil put in with sepia, and the iris with cobalt and sepia if a gray or blue eye, or for a dark eye with burnt sienna. The lips are now to be coloured with vermilion and pink madder, remembering to keep the upper lip in shadow. The lips of children require more vermilion, and of aged persons more pink madder, sometimes even approximating to a purple hue. The shadows about the mouth and nostrils may now be touched with brown madder and pink madder. The principal shadows of the face may next be strengthened with a mixture of Indian red, cobalt, pink madder, and Indian yellow, or cobalt and Naples yellow, the tone of the photograph and the complexion of the model indicating which of these colours shall prevail. Now heighten the general flesh tint by hatching, using the colour thin and flowing, and following

the form of the face. In dark complexions the carnations may be heightened with Indian red.\* The cheek.

If high finish be not desired, the head might now be completed by heightening the colour on the cheek with vermilion and pink madder.

Good photographs, thus finished, and styled

### “TINTED,”

have a very pleasing effect if skilfully managed. Tinting.  
In many cases, however, a more completely elaborated painting will be required. In which case, next proceed to wash in the general tint of the background, choosing a colour that will give the most value to the complexion. The draperies may now, also, be commenced, by receiving the general wash.

This will have materially modified the depth of the flesh tints, which must be strengthened Strengthening flesh tints. accordingly. The colour of the cheek is now to be heightened with vermilion and pink madder. Carmine is sometimes used for the cheeks of children and ladies with pleasing effect. In colouring the cheek, bring the colour well up to the temple, and diffuse it towards the ear, stippling the edges near the nose; add also a little of the same tint to the chin. Deepen the Deepening the shadows. extreme shadows again, if necessary, and blend the

\* This colour, being a preparation of iron, should not be used with Naples yellow, which it is apt to injure.

shadows with the local flesh, by stippling with grey. Hatch over the shadows of the forehead—which have been deepened previously with Indian red—with a bluish grey, and with a light tint of the same hatch over the retiring cheek, the temples, and about the chin. Put in the blue shadows beneath and at the corners of the mouth. Now stipple the socket of the eye with a cool green. The reflected lights may next be warmed by stippling with the flesh tint, finish the lips by stippling with vermilion and pink madder, using a little Chinese white for the high light, if necessary. Touch the edge of the upper eyelid with Indian red, and soften the shaded side of the iris, by the addition of a little shadow colour. The *sclerotic* or white of the eye in many persons will require touching slightly with cobalt, and the corner next the nose with pink madder.

Finishing  
the hair.

The hair may now be finished, taking care to keep it in mass, avoiding the wiry effect of single hairs. Soften the outline of the head where it meets the background, to avoid the effect of inlaying. Work on the edges of the hair and flesh with grey, to prevent the hair appearing cut into the face.

Finishing  
touches.

The head will now be considerably advanced, and the chief work will be to give finish and softness by stippling in the greys and pearly tints, and

to give a spirit and character by putting in the deepest "touches" about the eye, with sepia and pink madder, mixed with a little dilute gum arabic, and about the mouth and nose with sepia and gum water. The light in the pupil of the eye must be carefully put in with Chinese white, the preferable form of which is that in bottle.

The neck and bosom, hands and arms, which The neck and hands. have previously been washed with the local tint, may now be finished. The shadows of the neck are cooler than those of the face, as are also those of the bosom, which are of a bluish tint. The tips of the fingers, knuckles, and elbows may be hatched with pink madder, and the divisions of the fingers touched with the same.

Next proceed to finish the draperies and back-ground (of the method of painting these we shall Draperies and back-ground. speak in another place). In the choice of colours for this purpose, the complexion of the model must be considered. If it incline to yellow, it may be neutralized by the proximity of a brilliant yellow ribbon, whilst purple would ruin it. A very red or purple face may be softened by the neighbourhood of more vivid colours of the same hue. A bright rosy complexion will be improved by draperies of green, and a very fair complexion may gain by contact with blue.

Now return to the face and examine it care- Corrections and alterations.



fully, in order to give it the finishing touches. Begin at the upper part of the picture, and complete it as you proceed. Where the shadows have too much purple, correct with cobalt and a little yellow; if too green, correct with Naples yellow and pink madder. Touch the eyelids with sepia. See that all the edges of shadows are softened into flesh with grey. Keep all retiring parts cool. The shadows of the ear should be warm, and general tint somewhat pinkish. The shadow under the nose may be glazed with Vandyke brown. If the hatching be too wiry, work on it with a wet pencil without colour, to blend and soften the lines.

**High lights.** The high lights in the photograph should be throughout carefully preserved. Where it is necessary, they may be put in with a little Chinese white and Naples yellow; passing over them, when dry, a delicate coat of the local tint, to blend them with the flesh.

A little gum water used in the deepest shadows of the hair, eyes, &c., gives transparency if required, and the picture is finished.

### COLOUR OF HAIR.

**General  
hints on  
hair.**

The various colours of hair are so numerous, and the tones of photographs so varied, as to

render it impossible to give any specific combinations of colour for painting hair. We may, however, offer a few general hints. In such heavy photographs as may require it, a little body colour may be used. Chinese white or Naples yellow added to the colour, for lights, will answer.

**FLAXEN HAIR.**—The lights may be formed with Roman ochre, the shadows have often a greenish hue.

**AUBURN AND CHESNUT HAIR.**—The lights of neutral tint inclining to purple, the local colour burnt umber, the shadows glazed with lake.

**BRIGHT RED HAIR.**—As it is rarely an object of ambition to possess hair of this colour, it should be generally somewhat subdued. For the lights Roman ochre may be used; Venetian red and sepia, or burnt sienna for the local colour. Shadow with sepia and lake.

**DARK BROWN HAIR.**—Lights, purple; local colour, sepia; shadows warm.

**RAVEN BLACK HAIR.**—Lights, neutral tint; local colour, indigo, lake, and gamboge, in such proportion as may be required.

**GREY HAIR.**—Cobalt and sepia, modified as may be required with neutral tint and burnt umber.

## DRAPERIES.

We have before remarked that in portrait painting, whilst there are certain colours inherent in the model which the artist must render accurately, by colouring them as faithfully as possible, there are others the management of which are very much under his own control, and by the judicious choice and arrangement of which he gives their utmost value to the colours absolutely belonging to the sitter, and preserves the harmony and keeping of his picture. The management of the draperies comes under this head. We cannot here elaborate the subject, but must leave it to the good taste of the colourist, merely referring him to the brief statement of the principles on which the harmony of colour is based, given in a former chapter.

Preservation  
of harmony.

Transparent  
colours for  
silks, &c.

In a good photograph the characteristic texture, folds, lights, and shadows of different fabrics are generally rendered with great accuracy and beauty; and in silks and satins the artist will have little difficulty in colouring; clear washes of transparent colour generally suffice, a little Chinese white being sometimes added to the high lights, to give additional brilliancy. As a general rule, where the lights are cool the shadows should be warm.

Blue dresses  
undesirable.

BLUE, often a favourite colour with ladies, is somewhat troublesome for the artist to deal with,

as the presence of such a mass of cold and positive colour renders it necessary to introduce something sufficiently warm to preserve the harmony of the picture. Where it must be painted, use cobalt for the lights, and French blue and lake for the shadows; and in some cases a little sepia may be added, keeping the shadows as warm as possible. For dark blue, indigo or prussian blue, still keeping the shadows warm, and if the blue approximate to purple, the shadows may have a tinge of orange.

**YELLOW.**—All positive colours should be avoided All positive colours to be avoided. in any mass, or at least used with moderated brilliancy. If Indian yellow be used for lights, the shadows should be of Vandyke brown, and a little purple madder. Gamboge may be shadowed with sepia. Cadmium yellow, which is of a rich permanent orange tint, may be shadowed with burnt sienna and lake.

**RED.**—Whether vermilion, carmine, or lake be used, sepia and lake in modified combinations will form a good shadow colour. Pink, which is either carmine or pink madder diluted, may be shadowed with carmine, cobalt, and sepia mixed to a lilac tint. For uniforms, a most brilliant scarlet Scarlet uniforms. is produced by first washing with cadmium yellow, and when that is dry, using vermilion over it. Shadow with carmine and sepia.

**PURPLES, GREENS, ORANGE, and all compound** Compound tints.

tints are formed by the mixture of some of the primaries. A little practice will enable the colourist to select such as best meet the wants of the moment, following the principles already indicated regarding their shadows.

**WHITE.**—Chinese white is the most useful and permanent. The middle tints may be formed of cobalt and Indian red, and the shadows of sepia. Chinese white is used for lace, pearls, &c.

**BLACK.**—Sepia, indigo, and lake; or gamboge, indigo, and lake, make a good transparent black for silks, &c., using more indigo for the lights, and more lake for the shadows.

**Ornaments.** **GOLD ORNAMENTS** may be touched with Roman ochre; the lights with Chinese white and chrome or Naples yellow, and the shadows with burnt umber.

**CLOTH FABRICS.**—These, unlike silks, are often painted in opaque colours, and it is then best to cover up to some extent the photograph at once with the local colour, and paint the lights and shadows on it; or, if they are strengthened first, they will show sufficiently through the local colour, to guide the artist as to the drawing. For a black coat, mix Chinese white and lamp or ivory black to the proper tint for the local colour, adding a little gum water. Lay on as evenly and smoothly as possible a full coat of this; when dry, wash with

Body colour,  
to prepare  
and lay on.

thin gum water carefully. When this is dry, any little inequalities are to be taken off with a scraper, and the surface again lightly coated with gum water. This process may be repeated if necessary, until an even smooth foundation is obtained. Now paint in the lights and shadows carefully, observing the drawing in the duplicate photograph. The shadows will be formed with indigo, sepia, and lake, mixed with gum water, and the lights of the same without the gum, with the addition of sufficient Chinese white. Care must be taken in painting these not to disturb the general wash. Cloth fabrics of other colours require similar treatment, Chinese white forming the body colour with the addition of such other tint as may be required.

Where cloth draperies in the photograph are perfect and well defined, it is not necessary to use body colour in obtaining texture. In such cases, transparent washes preserving the characteristic texture, as rendered in the photograph, will answer every purpose. The lights and shadows will then be strengthened in the same manner as if body colours were used. This method is best where it is desired to preserve the general photographic character of the picture.

The deep shadows of all draperies are improved Gum water. by the addition of a little gum water; but this should be used very sparingly, as excess is likely to crack, and gives a vulgar effect.

## BACKGROUNDS.

- Repose necessary.** The background is generally still more under the control of the colourist than the draperies, and by it he is enabled, not only to give relief to the figure, but to harmonize the whole. It should be devoted to repose, and in no case should be so painted as to distract attention from the principal figure. If painted of one uniform flat tint, the figure is apt to appear inlaid, which should by all means be avoided. The aim should be, to give an atmosphere to the picture. This must be effected by using broken tints, and by causing the light to fall on the background from the same point as it falls on the sitter. As a general rule, a judiciously painted plain background has the best effect. The fewer objects introduced into a background, the better ; and where introduced they should be merely indicated, not painted with sharpness or intensity.
- Inlaid effect to be avoided, and atmosphere sought.** If a landscape background be introduced, it should be painted broadly, and with few details. With a large portion of the public these backgrounds are preferred, and they sometimes serve the colourist's purpose, in admitting the repetition of the flesh colour in the warm tints near the horizon.
- Landscape background**
- General tint** As a general rule, the best background is one which is darker than the lights, and lighter than the shadows, of the picture. For fair persons the blues,

violets, and greens may be used with advantage ; whilst for dark persons, warm browns and dark reds will be found valuable. Greys, greens, olive, greenish greys, &c., will frequently be useful.

The local tint should be washed, and the lights and shadows of the background hatched on, using a little gum water with the colour. If a curtain be required, it should be painted with opaque colour ; sky, with transparent colour.

Opaque "flat" backgrounds are often painted in photographs simply because they are easy to manage, and readily hide any defect in the photograph. Almost any tint may be made with Chinese white, and the addition of such other colour as may be required. A stone colour may be formed by mixing Chinese white with yellow ochre and burnt umber ; a chocolate, of Chinese white and lamp black and Indian red ; a greenish grey, of Chinese white, yellow ochre, and indigo. Opaque backgrounds are generally inartistic, however, and make the figure appear inlaid.

When white spots occur in the background from some defect in the photograph, they must be touched with a little deeper tint of the local colour, which is generally lamp black or sepia. Black spots ought never to occur, for the transparent spots in the negative which cause them ought to be "touched out" in the first instance with opaque colour.

Mode of working.

Opaque background inartistic.

Mode of painting them.

Spots, to touch.

"Touching out" the negative.



## VIGNETTE PHOTOGRAPHS.

A pleasing style of photograph has been much produced of late under this name. They do not require the same amount of finish as others, but look exceedingly well when *tinted* as described in a previous page.

## STEREOSCOPIC PICTURES.

Photographs intended for the stereoscope should be simply tinted with transparent colours, as any attempt to produce finish by elaborate manipulation would not only fail of its purpose, but would, by altering or obscuring the minute photographic detail, materially interfere with the stereoscopic result. The following list comprises a selection of colours, the transparency of which may be sufficiently relied on, to meet all general requirements :—

Burnt Carmine.	Intense Brown.
Carmine.	Indian Lake.
Cadmium Yellow.	Orange Vermilion, 2 (for scarlet).
Gallstone.	Pink Madder.
Madder Carmine.	Rose Madder.
Purple Madder.	Cobalt Blue.
Permanent Crimson.	Brown Madder.

French Blue.	Chalon's Brown.
Intense Blue.	Crimson Lake.
Indian Yellow.	Light Red.
Purple Lake.	Neutral Tint.
Sepia.	Olive Green.
Sepia, Warm.	Prussian Blue.
Antwerp Blue.	Prussian Green.
Bistre.	Purple.
Brown Pink.	Payne's Grey.
Burnt Sienna.	Raw Sienna.
Burnt Umber.	Raw Umber.
Dragon's Blood.	Sap Green.
Gamboge.	Venetian Red.
Hooker's Green, 1, 2.	Verdigris.
Indigo.	Vandyke Brown.
Italian Pink.	Yellow Lake.
Yellow Ochre.	

The medium to be employed is "Newman's Preparation" (see page 35).

Commence with the sky—take on the palette small portions of the colours required; say, for illustration, gallstone, orange vermilion No. 2 (scarlet), and prussian blue; mix a tint of each of the colours of a tolerable strength (if you are about to represent an evening sky, in which there is generally more warmth than any other), and have each tint in a separate saucer. Commence with a

brush full of the blue tint, and float the colour from the top of the picture, replenishing the brush often until you have got about half way down the sky, when the brush, being nearly emptied of the blue tint, may be dipped into the scarlet, which must be floated on in the same manner for a small space right across the sky, gradually adding more and more scarlet, until the tint arrives at the pure scarlet, when you must add the gallstone tint just in the same way, terminating with pure gallstone at the horizon. It should then present a flat surface of the following tints:—pure blue, violet, scarlet, orange, and yellow, blending one into the other, more or less perfectly, according to the skill with which they are applied. Whilst this is drying, colour the companion picture in a similar manner, but manage so that the tints unite at places either above or below the changes in the other, so that, when seen in the stereoscope, the two will blend insensibly together. Now paint the distance, using the sky tints, with the addition of the local colours, keeping them, however, very faint, and only just a degree or two stronger than those in the sky. Stronger local colour may be used for the middle distance, and the richest colours, such as gamboge, brown pink, burnt sienna, and crimson lake, must be reserved for the foreground and figures. To colour the

draperies of the figures, you must take advantage of any division that may occur by one piece of drapery joining or crossing another, so that you may have only one piece at a time under treatment, as you will find it much easier to tint a space where the boundaries are limited. The colour must always be laid on with a full pencil, so that, when dry, there shall not be any markings of the brush visible. The colouring of flesh, which ought to be done before any other part of the figure, is alluded to last, as it requires more care and dexterity than any other part of the picture. Mix a delicate tint of scarlet, and float it over the flesh; when that is dry, take a little rose madder, and, with a very fine pointed brush, tint the lips and stipple the colour delicately upon the cheeks and chin, allowing the gradations in the light and shade of the photograph to shine through, when they will form beautiful grey tints, which you could not hope to imitate without an immense amount of labour and skill.

We have recommended orange vermilion for the flesh wash, although it is not perfectly transparent. A scarlet effect may be produced by washing first with Indian yellow or gamboge, and then with pink madder, using, of course, "Newman's Preparation," as a medium to fix each tint.

Some very beautiful effects may be produced by the following method, which we will call compound colouring. Use one set of tints for one picture on the slide, and a different set of tints for the other ; for instance, suppose you are colouring a piece of drapery, in one picture use pink madder, and in the other a tint of blue ; when viewed in the stereoscope it will appear a beautiful shot purple. This plan may be adopted with great advantage for skies, draperies, fruit, flowers, shells, &c.

### GELATINIZING POSITIVES.

As especially applicable to stereoscopic photographs, and, to some extent, to paper positives generally, it may be of interest to some of our readers to possess a mode of coating pictures with a film of gelatine, practised with success in France, and producing better results than any other varnishing process.

Mode of  
gelatinizing.

To 20 grains of the purest gelatine—Italian gelatine is best, isinglass will not do at all—add an ounce of cold water, and place it near a fire until it is dissolved, and then strain through muslin. Provide a piece of well-polished plate-glass, free from scratches and imperfections, of the required size. After cleansing thoroughly and

drying, sponge all over with prepared ox gall. Before the ox gall is dry, pour on it sufficient of the hot solution of gelatine to cover the plate in the same manner as collodion, and put it away to set where it will be free from dust. The time required for setting will depend on the temperature, varying from half-an-hour to a few hours.

When it is sufficiently set—which may be ascertained by gently laying a finger on its surface, which should just retain the impression thus made, without being “tacky”—lay the picture gently on the gelatine, face downwards, pressing it, and taking sufficient care to avoid air-bubbles; then leave it some hours to harden thoroughly. Stereoscopic pictures might be left in this condition with advantage, binding the picture and glass together at the edges by a piece of gummed paper. Where, however, this is not intended, a penknife may be run round the edge of the picture, when the gelatine is perfectly dry; it will, if the process has been properly conducted, separate from the glass with ease, and present a highly polished transparent surface, exhibiting the minutest detail with the greatest delicacy and beauty.

As gelatine possesses a tendency to absorb moisture, and also to decomposition, it is doubtful whether this process will tend to the preserva-

tion of the photograph. The picture should always be mounted, or, after gelatinizing, it will be apt to curl up. Touching the surface with a warm or moist finger will also injure its gloss.

### MEZZOTINT PHOTOGRAPHS.

Touching in  
light and  
shade.

Touching up paper prints in light and shade chiefly requires care and some knowledge of drawing. The colours to be used must somewhat depend on the tone of the photograph. Brown madder and Indian ink, in the required proportions, will very nearly approximate to the tone of many photographs; whilst others will acquire these colours with the addition of a little neutral tint, or others a little sepia. The chief point is to use very little colour at the time, and, in touching the half-tone especially, to work with a tolerably dry brush; you will thus see better the exact depth of the tint you are producing, than if working with a pencil fully

Body colour.

charged with wet colour. A little Chinese white (see page 48) may sometimes be used, if the photograph be very heavy and wanting in drawing in the shadows, especially in the hair. But it must be remembered that Chinese white is very cold compared with the tone of most photographs, and will acquire modifying to harmonize. It may also be used for putting the point of light in the eye.

Avoid gum, and everything which does not accord with the surface of the print. Gum water.

## REPRODUCTION OF IMPROVED POSITIVES.

Closely connected with the above process, we are tempted, although somewhat out of our province, to give a method of producing "improved positives," which, although simple in itself, does not seem to have occurred to photographers generally, but which will be found especially useful where several copies of the same picture are required.

It is not an uncommon circumstance with photographers to obtain a negative in which the portrait may be perfect, but the background defective. Other cases occur where some minor or even cardinal defects exist in a negative, of which it is impossible to procure a better copy. In such cases the photographer may find a valuable resource in the facility which he may possess for "touching up" a print from such negative in light and shade making such emendation and improvements as he may require, doing this with sufficient breadth and vigour, and from this amended copy reproducing a negative at his leisure, from which he may print as many perfect proofs as he may require.

Imperfect  
negatives.

A remedy  
for defects.



## 64 PRINCIPLES AND PRACTICE OF COLOURING.

Pictorial  
backgrounds

Again, when an uncoloured portrait is required for publication, it sometimes happens that a background with a few characteristic objects is required, for which "set scenes" or painted screens are not immediately available. This may be easily effected in the same manner, a first impression being coloured in light and shade, with such characteristic background as may be required, and from this a negative obtained, giving prints with the perfected pictorial results.

### GENERAL REMARKS.

These in-  
structions  
merely  
suggestive.

On concluding our instructions for painting photographs in water colours, we must repeat our reiterated remark, that all we have said on the combinations of colour best suited to imitate certain effects in Nature are merely suggestive, and will require perpetually modifying to suit the complexions to be imitated, and the tone of the photograph to be coloured. A right method of colouring is the main consideration. There is no need to be anxious to attain high finish at once. To retain the likeness must first be studied, and after that to obtain purity of colour, roundness, vigour, and breadth of light and shadow. Refer constantly to the duplicate copy, and keep the picture well together, as one part of the picture cannot be properly finished before the

remainder is sufficiently advanced. Remember throughout, that whilst the shadows of the photograph may be strengthened or subdued, they must never be obliterated. Persevere in aiming at excellence. Never say "it will do," until your Persevere. work is as perfect as you can make it. Observing this rule, and following carefully the suggestions we have given, you must, if possessing any capacity or aptitude whatever for the undertaking, infallibly succeed.

## PHOTOGRAPHIC COLOURS.

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### POWDER.

Early modes  
of colouring.

FROM the earliest history of photographs, which, as the reader is aware, were first produced on silver plates by the process of Mons. Daguerre, an efficient mode of colouring them has been felt as a serious desideratum ; and it is somewhat amusing to glance at the various methods proposed, for some of which patents were obtained. One gentleman proposed to cover the daguerreotype plate with a thin transparent membrane, attaching it to the surface by means of gum, and upon this surface transparent colours prepared with varnish were to be applied. Another proposed to trace the outline of the picture on the glass covering it, and then removing the glass, colour it with the transparent colours used in painting glass for the magic lantern ; the glass then being replaced, the picture was seen through the tinted medium. At length the application of dry colours in a state of very fine powder was adopted. By this method, although much the best for the purpose, so imperfect was the preparation of the colours, and so inefficient the method of

Imperfect  
colours.

using them, pictures were, for many years, as frequently spoiled as improved. The colours sold for the purpose were often utterly worthless, and the instructions for their use we have seen on more than one occasion have been to the effect that they were to be "dusted over the picture!" The variety, brilliancy, and delicacy of the tints, and the excellence of the preparation of those we are about to describe, however, offer the fullest facilities, with even average taste, skill, and perseverance, for producing very beautiful results.

Dry colours are used for colouring positives on glass, silver plate, or albumenized paper. They are used, as we have said, in the form of an impalpable powder, and are prepared so as to adhere to the surface of the picture by the simplest manipulation.\*

Dry colours :  
their use.

\* We may here remark once for all, and at the risk of appearing prejudiced, that we are speaking of the colours prepared by Mr. NEWMAN. After many years' constant practice in the use of dry colours, and after having tried, we believe, those of almost every maker, we unhesitatingly aver that there are none in any respect comparable to those we are now describing. An almost universal characteristic of powder colours is, the dull, heavy effect they give to the picture, however brilliant in themselves the colours may appear. The special difference in Mr. NEWMAN'S colours is, that they do not produce this effect. Clear and brilliant in themselves, they give a life-like effect to the picture. Even want of skill in the colourist does not impair the brilliance and purity of the results, and with average skill

## BRUSHES.

Bad pencils  
useless.

Kind of  
pencil  
required.

To prepare  
for use.

It is absolutely necessary that the amateur should have good and suitable pencils to commence with; nothing will be more likely to cause him to throw up the attempt in disgust than unsuitable pencils, by which it is impossible to apply the colour properly. They should be of the best material, and manufactured so as to carry a firm, well-supported point. This should result from the careful selection and arrangement of the natural points of the hair, and not from being *ground* to a point—a practice resorted to by inferior makers to gain a factitious point. For general purposes Nos. 1 and 2 camel's hair will be found most useful. They should be prepared for use from time to time by briskly agitating in a glass of clean water, and then drawn through the lips to form a point, in which form they must be suffered to dry, and are then ready for use. A good stock ready pointed should always be kept at hand, as it is not desirable to use the same pencil for dissimilar colours. A few larger and care the very finest effects may be obtained. The extreme ease and simplicity with which they are manipulated, preventing waste, make them the cheapest as well as the best. The numbers, &c., used in the following instructions are those employed in Mr. NEWMAN'S list of colours, which the student should procure.

camel's hair pencils will be found useful in backgrounds, and a few small sables for fine lines. Common pencils, which at once spread into the form of a dusting brush when dry, are worse than useless.

In addition to colours and pencils, an elastic India rubber bottle, with tube, will be required, India-rubber blowers. for blowing off superfluous colour, as blowing with the lips should in no case be attempted, on account of the danger of spotting the picture with moisture. The vulcanized india-rubber blowers should be avoided, especially if daguerreotypes are to be coloured, as the sulphur acquired by the india-rubber in the process of vulcanizing is sometimes given off in minute particles, which immediately cover the silver plate with black spots. This remark will explain to many who have coloured daguerreotypes the cause of a source of annoyance which has appeared unaccountable. A large camel's hair dusting brush, gold and silver shells, and a bottle or tube of Chinese white, will also be required. Gold and silver shells.

The colourist will find his account in procuring at the outset a complete box of colours, in which he will find the best possible selection of tints for flesh, draperies, backgrounds; and also a complete assortment of pencils, and other requisites for his purpose. Facilities for plenty of variety in colour- A complete box necessary.

ing will make the work easier, because more interesting to the colourist, as well as more satisfactory in result.

## VARNISH.

Want of a  
good varnish.

Mistakes on  
the subject.

A good varnish for glass positives, presenting a surface suitable for receiving colour, has been felt as a want by all practical photographers; and notwithstanding the number and variety prepared for the purpose, under the various names of crystal, vitreous, chloroform, ambrotype, amber, &c., &c., none have been found fully to meet the requirements of the artistic colourist. A great misapprehension, we think, as to the proper characteristics of such a varnish, has prevailed amongst the manufacturers, and we fear to a large extent amongst photographers themselves. To cover the picture with an even layer of some hard transparent gum, to serve a protective purpose, has in most cases appeared their only aim. This, whilst it has enriched the blacks, has in all cases lowered the whites, and given the picture a common, glazed, inartistic appearance. Just as reasonable, we take it, would it be to varnish in like manner a delicate ivory miniature. A varnish for glass positives, to give

the greatest facilities to the colourist, and have <sup>What it should be.</sup> the most artistic effect when finished, should not present a hard glassy surface off which the colours must blow like dust; but a surface which, whilst entirely free from all "tackiness," should nevertheless present a tooth to the colour. This should result from a slightly granular effect in the surface; not, let us be clearly understood, the least degree granular in appearance to the eye, but to the touch of the pencil. Such a varnish, whilst enriching the blacks, and giving the shadows transparency, should leave the lights somewhat "flat" or dead, and scarcely in any appreciable degree lower their colour. On such a surface the dry colours will adhere like crayons—it is, in fact, a species of crayon drawing <sup>Crayon drawing.</sup> of which we are writing—on it the finest effects are possible to skill and patience.\*

## METHOD OF COLOURING.

The method of colouring is much the same, <sup>Daguerreotypes.</sup> whether on daguerreotypes, positives on glass, or on paper. Daguerreotypes are coloured in all

\* A varnish largely possessing these characteristics, and drying quickly besides, has recently been introduced by Mr. NEWMAN. It will be hailed, we doubt not, by photographers with great satisfaction.



## 72 PRINCIPLES AND PRACTICE OF COLOURING.

respects as glass positives ; and as they are not usually varnished, when once coloured throughout, they are finished.

Positives on  
glass.

The positive on glass may be coloured either on the collodion surface, or varnished and then coloured. As, however, we wish to give the mode of producing the *best results*, we will describe our own method. The picture is first coloured on the collodion surface. It is well, perhaps, to commence on the forehead, using flesh No. 1, fair or dark, as the complexion may require. A small portion of colour is taken up on the pencil and applied with a circular motion, on the high lights first, and gradually softening towards the shadows, taking care at all times not to overload these with colour, or the roundness of the picture will be destroyed. Having coloured the lights of the forehead, nose,

Flesh tints.

and chin with No. 1 flesh, now with No. 2 flesh, fair or dark, commence on the lights of the cheeks, softening into the shadows, and joining the high lights already coloured. If the complexion be very fair and delicate, a little No. 1 flesh may be combined with No. 2 for this general tint. The outlines of each feature must be carefully traced, and caution used to avoid covering the shadows of the mouth, nostrils, &c., as well as to avoid touching the hair or eyes with flesh colour. Proceed in like manner with the neck, arms, hands, &c. The

The hair.

hair, if golden or red, may now be coloured, touching only the lights and half tones, and avoiding the deepest shadows. As the varnish will materially lessen the brilliancy of the first colouring, a little yellow or even orange may be safely used for light hair; and as the less the hair is touched after varnishing, except on the high lights, the better, it is well to colour sufficiently bright at first, allowing for the effect of the varnish.

An even, delicate coating of flesh colour having been obtained, proceed with the draperies. It is here necessary to remark, however, that whilst brilliancy and depth are obtained in some colours by colouring before and after varnishing, with others no such advantage is gained, and it is comparatively useless to apply them before varnishing. A little experience will soon suggest where the line is to be drawn. We may suggest generally that fleshs, reds, greens, and yellows may be applied first with advantage; whilst browns, purples, light blue, and some other colours are best left until after varnishing.

Colours used  
before var-  
nishing.

In colouring draperies proceed on the same principle as in flesh, commencing on the lights and softening into the shadows. Great care is here required to avoid covering the deepest shadows and destroying their transparency.

Draperies.

Spots, to  
touch out.

Imperfec-  
tions, to  
remedy with  
water  
colours.

Varnishing.

The first colouring completed, carefully blow away with the India rubber bottle every particle of colour which has not adhered to the surface, otherwise it will run with the varnish. Before varnishing also observe if there are any spots or imperfections in the picture. Black spots, which will occasionally occur in the background of otherwise good pictures, may be carefully touched out with a little of the Chinese white, modified with such other water colour as most nearly resembles the tint of the background. If the eyes have moved or are not perfectly sharp, they may, if the colourist possess sufficient skill, be touched with water colours, the pupil defined and the markings of the eyelash deepened, and the light put in with a little Chinese white. But it must be remembered this requires great care, some skill, and knowledge of the actual drawing of the eye. Without these it is more easy to spoil than to improve the picture by the attempt.

The picture is now to be varnished, blowing carefully to remove the dust, &c.; the varnish is to be flooded on to the plate in the same manner as collodion, and with the same care to secure an even coating, and drained off at one corner. A dusty atmosphere should be avoided whilst varnishing the picture.

When quite dry, the picture is again ready for

colouring. A material advantage has been gained, notwithstanding that all the colours already applied have lost so much in brilliancy. One great objection urged against the use of dry colours, has been their tendency to fade. Here, however, they are dry colours no longer, the varnish combining with the colour on the plate has formed a coating similar to oil paint, and possessing much of its stability. Moreover, the colours which lay on the half-tones and shadows, somewhat obscuring them, having combined with a transparent vehicle, have lost any approximation to opacity they might have possessed. The colour on the highest lights, combining with the varnish, has formed a surface on which the subsequent colouring will bite with the greatest tenacity.

The last remark will have suggested to the colourist the extreme care with which the second colouring must be conducted. Proceeding as in the first instance, but with the remembrance that now the colours are to be used exactly of the tint and brilliancy required, the high lights are re-coloured with No. 1 flesh; the local tint, with No. 2 flesh, fair or dark, as may be required; the cheeks heightened with Nos. 2 or 3 complexion. Great care must now be used not to destroy the roundness and relief of the face by entirely

Permanency  
secured.

Second  
colouring  
requires ex-  
treme care.

Shadows  
must not be  
obscured.

covering the half-tones and shadows with flesh colour. If the colourist have sufficient skill, a great improvement may be obtained by delicately touching the shadows with an approximation to the requisite shadow colours of flesh. A little damask and green form a useful grey for this purpose in dark or florid complexions, the green prevailing in the former, and the damask in the latter. For very fair complexions the peach forms a delicate shadow colour, giving as it combines with the flesh an approach to the "pearly tints" of the water-colour painter. The lips may now be touched with the colour for the purpose, modified as the case may demand. The upper lips, being in shade, must be touched with very great care to receive very little colour, as there is danger of making it appear swollen. The nostrils may be touched with carmine or damask. The iris of blue or light grey eyes may be touched with a suitable colour; but dark eyes, grey or hazel, are best untouched. For colouring the lips, eyes, and similar fine lines, a small sable pencil is most useful. The eyebrows and hair, where required, are now to be retouched.

Eyes and  
hair.

Draperies.

Proceed with the draperies in a similar manner. Great care is required to preserve the peculiar texture of various fabrics, which is rendered with

such delicacy and faithfulness by photography, and which it is very easy to spoil by colours.

The back-ground is next to be coloured. To <sup>Back-grounds.</sup> produce the best effects requires some skill and judgment, and much more of the beauty of the picture depends upon its management than most photographers seem aware of. Careful perusal and attention to the principles laid down in the chapters on the Harmony of Colour will enable the artist to effect everything that can be desired. If a plain background be intended, three points <sup>Points to be remembered.</sup> should be remembered regarding it:—Such colours should be chosen as best harmonise with, and give value to the colours in the model; it should be so subdued and devoted to repose as never to distract attention from the principal figure; and it should be so relieved by light and shadow as to give an atmosphere to the picture, and in no case suggest the idea of the figure being inlaid. Almost every <sup>Colours to be used.</sup> colour may be used in backgrounds, but various combinations of the greys, greens, browns, and purples are most useful for the purpose, and admit of endless variety. The background should be shadowed towards the lower part of the picture; and a light thrown on to the upper portion, in the same direction as the light falls on the head of the sitter, has a good effect. No. 3 brush is best for producing a smooth, even background; a smaller

pencil being used to bring up the colour to the outline of the figure.

Effect of a  
landscape  
background.

Sky, to  
colour.

Horizon.

Clouds.

A landscape background, consisting chiefly of sky, is often a favourite; it requires judiciously managing, and the effect of the blue in giving a yellow effect to the flesh should be remembered. The head should be painted in such case to suit the background to some extent. The blue must be laid on carefully and smoothly, with a No. 3 pencil, brighter towards the zenith and becoming more of a lavender tint towards the horizon, as a general rule. As a sunset effect is often admired, the line of the horizon is drawn with the colour for that purpose. Some slight artistic knowledge is absolutely necessary to succeed in producing a good background of this kind. We may call attention, however, to one or two points which the amateur must bear in mind. The line of the horizon should not be too low in the plate, and should be undulating, as a straight line would generally have an unnatural effect. The yellow should merge into red, and that into lavender, gradually blending into the blue. Clouds low in the horizon should be of a warm tint from the golden reflections of the sunset. Clouds higher in the sky should be of a light fleecy character, and should be drawn with sufficient light and shadow to give them relief from the sky. Silver grey will

be found useful for the lights ; and darker greys, lavender, peach, &c., for the shadows, which should gradually blend with the blue. It is the practice of some good colourists to leave spaces in the sky untouched with blue, to receive the clouds ; in our own practice, however, we have found it simpler to put in the clouds after colouring with blue ; No. 1 flesh, or silver grey, as the case may require, giving the lighted edge with sufficient brilliancy. The distance of the landscape should Landscape. be coloured with the colour for that purpose, warmer greens, yellows, and browns being used as the landscape advances to the foreground. It is not necessary that much definite drawing be introduced into the landscape ; general effects, without much sharpness, only are required.

As the shadows of the landscape, as also of any Shadows—  
how ob-  
tained. effects of drapery or architecture in the background, are obtained by leaving the plate untouched, the colour of the background before colouring should be of a tolerably dark grey.

After finishing the background and draperies, Retouching. once more retouch the face, which will now appear somewhat modified by the surrounding colour.

Positives on glass, produced by what is termed Alabastrine  
photograph. the “Alabastrine Process,” offer facilities for effecting finer results with dry colours than can be obtained on any other kind of glass picture.



The whites of the photograph being purer, the detail more perfect, whilst the surface, presenting a "tooth," like crayon paper, affords opportunity for an extremely brilliant and effective style of colouring. The mode of proceeding is somewhat different to that we have just described. The picture is varnished, with the varnish provided for the purpose, before commencing to colour; then proceed with the care recommended above for the second colouring, using similar tints for the lights and shadows to those recommended in the chapter on Water Colours. If greater brilliance is desired, the picture may be varnished again, and then recoloured in the same manner.

Lace and  
jewellery.

Lace, flowers, and jewellery may, where necessary, be delicately put in with water colours, or the latter with gold moistened from the gold shell. Silver ornaments may be put in with the silver shell; or, what is perhaps preferable, the aluminium shell, a new invention, which, we believe, though not so brilliant, will not tarnish. But care must be used not to give a vulgar, inharmonious effect to the picture by using too freely gold or silver in ornaments.

To remove  
superfluous  
colour.

When the picture is quite coloured, a clean pencil with a fine point should be taken, to remove such portions of the colour as may accidentally have touched the shadows of the

hair or draperies. Sometimes the point of the pencil may be touched against the hair or skin of the colourist, so as to take up the merest *souçon* of animal oil, by which means the superfluous colour on the plate is easily removed.

Positives on albumenized paper, or on salted paper sized with a preparation for the purpose—Dry colour  
ing on paper but, as a rule, salted paper photographs should be coloured in oil or water colours—may be coloured in the same way. Perfectly sharp, well defined, brilliant pictures, with plenty of high light and half tone, are necessary for the purpose. Still greater care and skill are here required to produce the best results; and as there is no varnishing nor second colouring, the colours must be put on with as much purity and delicacy as possible to commence with, depth and brilliance being obtained by repeated applications and the force of contrast. The paper positive should be mounted on cardboard, and hotpressed, or passed between steel rollers, before commencing, by which a glossy surface is obtained. Paper positives, coloured in this manner, have the advantage of preserving with the greatest accuracy all the original features of the photograph, the danger of losing which is the greatest drawback to the employment of oil or water colours.

In some paper positives, where detail is absent Detail,  
obtain.

in the shadows, certain little "tricks of art" are admissible. The point of a knife or eraser is used to abrade the surface, somewhat in the manner of stippling; over the lights thus obtained the proper colour is then used, and if it be well done, excellent effects may be produced. The use of a little Chinese white, or other body colour, stippled on for a similar purpose, sometimes advantageous.

The stump will be found useful in *rubbing in* dry colour on paper proofs, and many effects may thus be produced which in the mere *laying on* of colour are absent, such as texture in draperies, and transparency in the shadows of clouds, &c.

### NON-INVERTED COLOURED POSITIVES.

Non-inverted  
pictures.

It will be remembered that all glass positives, being coloured on the collodion film, are inverted, or transposed as regards right and left. A method of colouring, by which the picture can be viewed from the glass side of the positive, which presents the sitter in his true position, right and left not transposed, has recently excited some attention. The mode of producing this result is simple, and, when well done, presents somewhat the effect of enamelling on glass. It depends in the first instance, however, on the collodion film being permeable. This is sometimes the case in

ordinary positives taken with a collodion the pyroxyline of which has been made at a high temperature, thus giving a powdery film. This permeable film, however, is much best obtained by the "Alabastrine process," and the best specimens we have seen of the non-inverted coloured positives have been produced by it. The picture having been varnished and coloured, —and, if necessary, varnished and coloured again, —a little extra care being used to obtain brilliancy in the carnations, is to be varnished once more with "Penetrating Varnish," provided for the purpose, which has the effect of projecting the colour thoroughly into the collodion film; the result is, that the positive, then viewed from the glass side, presents a picture as vividly coloured as on the collodion side. The effect may be still further improved by going over the face again with No. 1 flesh. It is important that these pictures should be taken on colourless glass, the ordinary green glass materially injuring the tone of the picture. It must be remembered, also, that the "Penetrating Varnish" materially affects the tints of many of the colours. This modification of tint must be allowed for in applying the colour, experience dictating the extent of the modification to be expected. Without brilliancy

in the colour itself, no satisfactory effect can possibly be produced.

Since the first edition of this Work was published, experience has suggested some additional details in colouring this class of pictures. Very little idea can be formed, whilst colouring the picture on the surface, of the amount of depth or brilliancy of colour which will permeate the film. It is, nevertheless, of the utmost importance to know this before applying the "Penetrating Varnish." An approximate idea may be formed by examining the back of the picture after each application of the Alabastrine varnish, before it has dried; from its appearance then, a very good idea may be formed of the depth and tint already obtained. We mention the *tint* obtained as well as the depth, because the tint will, in many cases, appear somewhat different to the colour applied on the surface. It must be remembered that the Alabastrine picture consists of a mass of white particles, which have a similar effect on the colour permeating them to that which would be produced by adding white to the colour before it was applied. Some colours are also modified by the effect of the varnish. For these reasons, carmine is unsuitable for complexion tints, having a tendency to fall somewhat cold and blue. Mr.

Newman has therefore manufactured a tint, expressly for this purpose. The No. 2 complexion, as now prepared, will give a healthy, rosy hue on permeating the film, notwithstanding the white particles of the photograph, and the effect of the varnish.

To secure the best result, some parts of a picture will require more repeated applications of colour than others; this depending on the class of picture and the intensity required. The following general suggestion will be found useful in many cases:—Colour the flesh tints four times, watching the effect at the back, between each colouring, whilst the varnish is wet, to see that the cold grey of the photograph is yielding to the warm, healthy hues of flesh, and that the exact tint of the complexion is being attained; the hair will require colouring once or twice; the draperies, some once, some several times, depending on the nature of the colour, and the amount of intensity desired. As a general rule, backgrounds will only require colouring once; additional effect may sometimes be gained by repeated colourings; but great care is required in attempting this, as the extensive mass of colour in a background is sometimes apt to be moved by the varnishing, and run on to the face, &c. Where once is sufficient, it should be done last,

as there is no danger of the colour being disturbed or running, on the application of the "Penetrating Varnish." The danger of masses of colour spreading or running by repeated varnishing, is the chief risk to be guarded against, and care must be taken, before each additional application of the varnish, to see that no loose colour remains on the surface of the picture, but that all the colour applied is thoroughly worked in and incorporated with the surface.

Where the non-inverted position is not an object, many of the pictures treated as we have described by repeated colourings and a final application of "Penetrating Varnish," have an exceedingly good effect on the collodion side, very much resembling fine miniatures in oil. They constitute, in fact, the best possible imitation of delicately-manipulated oil paintings in general effect, and possess, at the same time, a similar permanency and durability.

Velvet  
instead of  
black  
varnish.

Colourless  
glass.

These pictures, and the Alabastrine photographs, should be backed with velvet of marone or violet tint, instead of black varnish. Indeed, all glass positives are frequently best so backed, to preserve warmth in the shadows. They should *always* be covered with *colourless* instead of green glass.

## ENLARGED PICTURES: FINISHING IN CRAYONS.

SINCE the introduction of the solar camera, life size and other enlarged photographs have begun to excite popular attention. Partly from some shortcomings in the method employed, and partly from inherent causes, these enlarged pictures, more than any other class of photography, require some aid from the touch of the artist. The more nearly the picture approaches the size of life, the more palpably is felt the want of the hues of life, and thus the aid of the colourist becomes almost imperative. And even where the monochrome of the photograph is considered sufficient without further colours, the untouched enlarged photograph rarely pleases, there is a want of force and vigour, or an emptiness and want of modelling, which the pencil of the artist can do much to supply. To meet either the want of colour or the want of finish, there is, perhaps, nothing more suitable than the employment of coloured crayons, or black and white chalk; and we shall, therefore, give a few brief hints as to the mode of using them.



## PREPARATION OF THE PHOTOGRAPH.

Enlarged photographs by the solar camera are generally, in this country, produced by the process of development printing, and are, therefore, on plain paper, without a surface of albumen. They are not unfrequently on drawing paper, in which case they are best suited for crayon painting. Any kind of paper with a somewhat rough surface, which will present a tooth to the chalk, will answer the purpose. The print should be mounted on a stretcher covered with canvas. Should the surface on trying fail to "bite" sufficiently, it may be rubbed with pumice-stone powder, or cuttle-fish powder, until a suitable surface is obtained, taking care, however, to avoid obliterating any portion of the picture. A method has also been proposed of imitating the surface of the pumice-paper prepared for pastel painting. This consists in applying to the paper a warm solution of isinglass, and then dusting through a sieve pumice or cuttle-fish powder until an even surface is obtained, which, on drying, presents an excellent tooth. This preparation will of course slightly obscure the image, which should have been, to begin with, tolerably vigorous. This treatment is only suitable for pictures which have

to be finished in coloured pastels. In most cases drawing paper, especially if it have received a final wash in hot water to remove the size, will answer every purpose.

#### FINISHING IN MEZZOTINT.

Developed prints on plain paper have generally a somewhat unfinished effect, which may, however, by a few skilful touches, be entirely removed. The tint of crayon to be used must depend upon the tone of the picture, and will consist of black, greys, browns, purples, and white; the latter to be used, very sparingly, for putting in such high lights as those in the eyes, &c. It will often happen that the features will require very little beyond a few bright vigorous touches to give decision and vigour. The irides and pupils of the eye will require strengthening, and the markings of the eyelashes and eyebrows defining; the nostrils, ears, &c., may also require a few delicate touches. If any additional force or modelling be required by the features, it must be effected by hatching with a free, light, bold touch, taking especial care to allow the lines to follow the curves of the features.

The hair will generally require a little attention, the shadows will require strengthening, and the locks defining, taking care, however, to avoid

stiffness. The drapery will also require the shadows strengthening, and in silk fabrics the lights may have increased decision and brilliancy given to them. The deep masses of shadow may be worked in with the stump; but in this kind of touching little more is required than a few decided sharp touches: the thumb should rarely be used. If more than this be attempted, the whole image will need to be overlaid with the neutral crayons, a process requiring much skill, and rarely being effective. If the background be defective, it may be entirely covered, suitable tints being rubbed in with the thumb. If it be tolerably perfect it will rarely need more than a little shadow, or a few sketchy accessories.

#### COLOURING IN PASTELS.

To colour the photograph in pastels requires considerable skill and a good knowledge of drawing, for as the material used is opaque, and the image is largely obliterated by every touch of the colourist, it follows that much of his success will depend upon his reproducing his work touch by touch, or upon his skill as a draughtsman in painting a picture from the photographic guide by his side. If the work be well done, no style of colouring is more effective or suitable for the finishing of life-size photographs.

The pastels should be procured in the assorted tints ready for use, thirty or forty tints at least being necessary for ordinary work. They should be soft but not powdery, and free from any particles of grit. Much of the success of the colourist depends upon the excellence and completeness of his tints, and upon the facility with which they may be applied.

It is best to begin with the shadows of the face, strengthening them with a warm tint, and so work upwards. The colour will be applied in bold touches, the respective tints being laid on roughly side by side, or slightly overlapping each other. When the whole is well covered, the tints, which lay crudely side by side, may be blended with the thumb, or in the more delicate parts by a stump. Let it be borne in mind, however, that the less of this softening work which is required the better, as much of it inevitably destroys the purity and brilliancy of the colour, and imparts a feeble woolly look to the work. The tints used for the face, &c., will be similar to those described in the instructions for water and oil colours, with the difference that we have referred to, namely, that they are prepared in the tints required, without further mixing. In cases, however, where a tint requires modifying, it may be done by the employment of two crayons. If a grey, for instance, be

too cold, it may, after it is applied, be hatched over with a red, and the two blended, and so on. After the face is first coloured, and the colour blended, great brilliancy and transparency may be obtained by hatching over the features with the tints of the same scale, but in a higher key. Warmth, or coolness, may be imparted in this manner, and these delicate brilliant hatchings may be left without softening.

The hair and draperies will be effected in the same manner, the hair being rather indicated in masses, than by any attempt to define hairs, which would give a hard, wiry effect. The background may be rubbed in with the thumb, the same principles guiding the colourist which we have expressed in former chapters.

There are two common errors to which the beginner is very liable; in attempting to keep his picture cool, quiet, and delicate, he is apt to become cold and chalky; and in attempting to secure warmth and fulness of colour, he is apt to become raw and red. Only great care, judgment, and practice will enable him to avoid these evils, together with a study of the works of the most eminent pastel painters.

Those who have opportunity of inspecting the works of M. Louis Gratia will find in them the best models possible for imitation. The richness

and purity of the colour, the transparency and living effect of his flesh, the utter absence of crudeness, chalkiness, or coarseness, have perhaps never been exceeded in pastels, and render these pictures admirable examples for the student.

A few sharp touches with the hard *conte* crayon are permissible in the finishing of the picture, and, if judiciously done, they are very effective. Let it be remembered also that a good body of colour on the picture in its earlier stages is a great adjunct to richness and brilliancy of effect.

Paintings in pastel are sometimes fixed by means of a solution of isinglass. The mode in which this is applied is by first stretching tight over the picture a piece of taffeta, and then applying the solution with a brush, taking care never to pass over the same place twice. The solution at once sinks through into the crayons without disturbing them, and when dry the colours are quite fixed. It is sometimes also applied at the back of the canvas. No fixing process is, however, recommended. The best method of preserving the picture is to place a glass at the back as well as the front of the canvas; this method will effectually protect the colours from sources of injury. It is recommended to keep pastel paintings from damp and from strong sunlight.

## COLOURING IN OIL.

Some knowledge of drawing necessary.

Water colours have no advantage over oil.

THE photographer who desires to succeed in colouring his productions *artistically*, should certainly possess a knowledge of drawing, although by using only transparent pigments he may avoid the danger of destroying the resemblance which arises from the use of opaque colours, some of which, however, are essential to the production of that brilliancy and force which should characterise a well-executed and well-painted photograph. Some colourists have awarded the palm to water colours for this rather insufficient reason—that the use of oil demands the experience and skill of an artist, forgetting that a lack of skill in the individual can in no way disparage the art itself; but if the advocates of water colours be right in concluding that the use of oil demands greater skill and ability, their argument must surely recommend *oil colours*, inasmuch as they guarantee in their use the competency and talent of the colourist: but it seems to the writer (and he has had long experience in the use of oil and water colours), that, in either art, he who has the highest order of artistic merit will succeed best, and that it is as easy to do *a little* in the one as the other.

The amateur, in colouring photographs in oil, should select for practice a thoroughly good positive, upon salted or albumenised paper. The picture must be free from stains, sharply defined, displaying well-arranged light and shade, and so printed that, without being too dark, every delicate gradation of tone, from the highest light to the deepest shadow, can be clearly traced, because a badly-taken or badly-printed photograph calls for many subtle contrivances, only acquired by experience and practice, and because the less difficulty met with in beginning, the greater is the encouragement to persevere, and by perseverance only is success ensured.

To select the photograph.

To prepare the photograph, mount it free from dust, carefully coat it with "Newman's Preparation,"—sometimes two applications will be necessary—and let it be rolled by some hotpresser.

Mode of preparation.

The necessary materials for colouring in oil should be obtained ready prepared. The amateur will require colours, nut oil and poppy oil, varnishes, brushes, palette, rest-stick, and palette knife. A palette with a white surface is best. In selecting brushes, see that they come to a firm smooth point, spring well after pressure, and taper sufficiently; the sable pencils are best for the purpose. The following colours are required: white, Naples yellow, yellow ochre, raw sienna,

Material required.



burnt sienna, Mars orange, light red, extract of vermilion, vermilion, pink madder, crimson lake, Indian red, raw umber, burnt umber, terre verte, emerald green, ultramarine, prussian blue, indigo, ivory black, pink and brown madder, Indian lake, Vandyke brown, brown ochre, Antwerp blue, and whatever other colours the drapery, background, or accessories may demand. Procure also a tube of megilp and sugar of lead—the one as vehicle, the other to assist colours which are bad driers.

The necessary tints are as follow :—

Tints for first  
painting.

*For the First Painting.*—White and Naples yellow, with a very small portion of the extract of vermilion. The same, with an addition of vermilion or light red. White and terre verte. The same, with a little Indian red. White and pink madder, with a little vermilion. Light red and burnt umber, white and Indian red.

Tints for  
second  
painting.

*For the Second Painting.*—White and Naples yellow. The same, with rose madder. The same, with a little emerald green. White, light red, and emerald green. White, Indian red, ultramarine, and raw umber. White, madder purple, and ultramarine. Vermilion and raw umber.

Tints for  
third  
painting.

*For the Third Painting.*—Madder brown. Raw sienna and Indian red, with a little lake. Lake, burnt sienna, and a little vermilion. White, pure,

and with Naples yellow and pink madder. Ultramarine and white.

The student who mixes these tints thoughtfully will at once see their uses in the different stages of his work, and his practice will suggest all the modifications and alterations which his model may demand.

### PAINTING THE PHOTOGRAPH.

Use sufficient megilp with your colours to render them rather thin and transparent, but let the lights be opaque and well coated with colour; lay your pigments in their place with as little after-disturbance as possible, to secure their purity. Commence by carrying a warm tint (light red and burnt umber) over the darkest shadows. Use the white, terre verte, and Indian red for the lighter shadows; then white and terre verte for the cold half tones; then, with less megilp, paint in the high lights with white and Naples yellow, graduating, thence, with the aid of the other tints given, into the local colour and shadows; this done, strengthen the nostrils, the lines of the eyelids, and that separating the lips, keeping them, though well defined, far from hard. Carry a line of brown or indigo, as may be required, round the iris of the eye, put in the local tint, the reflected light, and the pupil; remember that the

Mode of  
painting.

Shadows.

Lights.

The eyes.

The eye-  
brows.

part called white is grey, more or less light, according to its position, form, and the length of the eyelash. The eyebrow and hair next call for attention: keep the former soft, transparent, and hair-like; the latter soft, with its divisions well but not too strongly defined, and its character carefully preserved; it is transparent where it meets the brow, and requires there great nicety of treatment; nothing can be more unnatural than the hard line sometimes seen in very ill-painted portraits, where the hair and brow or temple meet.

The hair.

Carefully consider the gradations of tint by which the hair and flesh are softened into each other, and note the shadows cast by raised or over-falling locks, &c. The high lights of the hair, partaking of the nature of polished bodies, will be bluish, being colder (by contrast) as the hair is darker. Use grey and shadow tints to blend the hair and flesh.

The mouth.

In painting the mouth, great care and attention must be given to the preserving of its form and expression, or the resemblance may be very speedily lost.

Black coats.

Black coats are first glazed with a warm transparent black, into which paint the lights with different tints of black and white, strengthening the shadows with Vandyke brown, and a little lake or bitumen,

In painting the hands, carefully preserve the The hands. high lights and half tones, keep the knuckles, tips of the fingers, and the exterior portions more rosy than other parts, and put in the divisions between the fingers with a warm shadow tint.

All draperies may be treated as recommended in Draperies. the case of a black coat, using, of course, such colours as a study of the fabric itself may suggest.

### COLOURS FOR HAIR.

Light hair may be made with Vandyke brown and ochre, with raw umber for the shadows; raw umber for the local tint, and the same mixed with Naples yellow for the lights; the greys are the same as used for flesh.

**DARK HAIR.**—Use a little black, with some Vandyke brown and lake; keep the reflections cold, and the local tint rich and warm; for black hair use a larger proportion of warm black. Bitumen is a useful colour in this portion of your work, and brown madder mixed with French blue. In painting hair, carefully preserve the greys or half tones.

### TINTS FOR BACKGROUNDS.

Black, white, Indian red, and a little vermilion.

Black, white, and lake.

Black, and burnt sienna.

Black, and Indian red.

## 100 PRINCIPLES AND PRACTICE OF COLOURING.

Brown ochre, white, and burnt umber.  
Prussian blue, ochre, black, and white.  
Terre verte, raw umber, and burnt sienna.  
Black, white, and burnt umber.  
Umber and yellow ochre.  
Black, white, and burnt sienna.

### FOR SKY BACKGROUNDS.

White, yellow ochre, and a little extract of vermilion.  
White, and yellow ochre.  
White, and extract of vermilion.  
Vermilion, white, and French blue.  
Ditto, with black.

### FOR DISTANT SCENERY.

Vermilion, indigo, and white.  
Terre verte, white, and burnt sienna.  
Prussian blue, ochre, and white.  
Madder brown, and Vandyke brown, &c.

### FOR STONE WORK.

Black, white, and yellow ochre, or burnt umber.  
Black, French blue, and white,  
Black, white, and umber.

### FOR DRAPERIES.

#### *Linen.*

White, and blue black.  
White, black, and burnt umber.  
And white for the lights.

#### *White Satin.*

White.  
White, raw umber, and ivory black.  
White, black, and Indian red.  
Brown ochre, white, and a little French blue.

*Blue Satin.*

Prussian blue and white.

Ultramarine and white.

Ivory black, ultramarine, white, and a little vermilion.

Brown ochre, ultramarine, and white.

## SCARLET COATS.

Crimson lake, and king's yellow.

Crimson, lake, and vermilion.

Vermilion.

Crimson lake, and Indian red.

Extract of vermilion.

Carmine and yellow.

## GOLD.

Yellow ochre and raw umber.

Yellow ochre.

Naples yellow.

Burnt sienna and raw umber.

## SECOND PAINTING.

When the first painting is perfectly dry, soften To soften the work. the work by passing over it a brush charged with poppy oil, and then remove the oil with a piece of soft leather. Glaze the whole of the face with an Glazing. appropriate tint; repaint the shadows with transparent colours, strengthen and brighten the lights, improve the blues, greens, and greys of the flesh, and soften the lines; repaint the background, and blend its tint with a clean soft brush; strengthen the folds of draperies; use glazing tints wherever

practicable ; and preserve the colours warm, clear, and bright.

### THIRD PAINTING.

Finishing  
touches.

The second painting having dried, finish the picture with transparent touches and markings to strengthen the shadows, force the lights, and secure a masterly and artistic style of finish. When this is thoroughly dry, the picture is ready for varnishing.

Oil paintings are generally best left unvarnished for some months ; but as professional photographers are generally compelled to complete their works within a few weeks at most, it is desirable to use mastic varnish. The reason for this lies in the fact that mastic varnish is the most colourless and brilliant, and may at any time be easily removed without deterioration to the picture ; whilst copal varnish, being very hard, can only be removed by chemical agency. Especial care must be used not to apply the varnish until the last painting is thoroughly dry and hard. It is necessary that the room in which varnishing is conducted be moderately warm, and a bright day should, if possible, be chosen for the operation.

Preserve the  
photograph.

In conclusion, those who cannot draw should use their colours well thinned with megilp, to preserve their transparency. Those who can draw should

not, with imprudent conceit, refuse that care to the preservation of the photograph without which it is impossible to succeed in photographic colouring.

## A FEW WORDS ON PORTRAITURE.

As this manual is written by "an artist photographer," for the use of photographers who may have given less attention to art, it may be useful, although not strictly within the province of colouring, to say a few words on portraiture generally, and the principles which should be regarded in its practice. The class of photographic portraits which is chiefly in favour at the present day, known as *carte de visite* or album portraits, make greater demands upon the photographer's knowledge of art principles in regard to composition and arrangement, than any other phase of photography has hitherto done, and this may render more interesting and important any hints which may lead to successful and satisfactory results.

Let it be remembered at the outset, that the mere delineation of an object, the mere production of a likeness, does not constitute a picture. To constitute a good portrait, and produce at the same time a pleasing picture, the model should be represented under such circumstances of position,



arrangement, light and shade, and entourage of accessories, as shall indicate character, and at the same time be conducive to pictorial effect. The photographic portraitist labours under the disadvantage, that however perfect his taste, or knowledge of art, he has not absolute control, either over the forms he must delineate, or the relations of light and dark which shall exist in his model. He can, however, control the positions, and the light and shadow, so as to secure the most pleasing and characteristic lines these models possess, and he can by the selection and arrangement of his accessories secure the harmonious disposal of lines and of tones in his pictures; the liberal use of accessories now customary in photographic portraiture, permitting unusual facilities in this direction; but these should be used so as to secure unity and simplicity, harmony and breadth.

One of the first considerations in connection with portraiture, and especially where, as in card pictures, the full length of the figure is shown, will be as to position. This has much to do with the expression of character, as well as pictorial effect. Before speaking of the position of the model, a word or two in regard to the position in the picture, may not be out of place, as this affects the general result more than at first sight may be imagined. The figure should never, or at least

very rarely, be exactly in the middle, or equidistant from each side of the picture: nothing is more formal or destructive of pictorial effect than such a position. As a general principle more space should be in front of the figure than behind, unless some peculiarity of arrangement in the accessories suggest a different disposal. If the figure be placed equidistant from the top and bottom of the picture, it is still more destructive of suggestive truth, and pictorial effect, than if equidistant from the sides. The distance from the top and bottom is the chief means of suggesting the height of the figure. The nearer the head is to the top of the picture, the taller the figure will appear; and the greater the space overhead, the shorter will be the appearance of the model. Where a series of portraits of a specific size is issued, as in the card portraits now common, a specific proportion might with propriety be adopted. These pictures are, for instance, generally about three inches and a half in length; on such a size, a standing figure six feet in height might properly be made three inches high in the picture. If then, the remaining half inch were divided so that the feet of the figure were one-eighth of an inch from the bottom, and the head three-eighths from the top, a fair suggestion of the true proportions would be obtained. In larger

portraits, especially busts, the position is not so important, but should still receive attention. A bust in profile, or three-quarter face should have more space in front of the head than behind; a bust presenting the direct full face, may, however, without impropriety have the head equidistant from the sides.

The position of the model may be varied without limit; but it should be the aim to secure grace, and character, or both. Not less important than these in producing a satisfactory effect, is the presence of a purpose or object in the position. It is not intended by this to imply that the sitter should be in all cases engaged in some occupation, but care should be taken to avoid the suggestion of either entire vacancy, or the self consciousness of having a portrait taken. In the portrait of a lady a variety of resources from this may be found; she may be examining a bouquet, arranging a vase of flowers, buttoning a glove, examining a picture, reading a letter, &c., &c. In the portraits of gentlemen, the same occupations would be less suitable; but others are available; even the conventional book held in the hand need not necessarily be arranged in the common-place conventional manner.

Entire repose is by no means inadmissible, but care should be used to secure the absolute feeling

and appearance of intelligent repose, avoiding alike effort and vacuity. In all cases straight lines and angles should be avoided as much as possible in arranging the position. The figure perfectly upright, without inclination or curve of any kind, is not graceful in any one, and in a lady is especially awkward and undesirable. The figure may lean against a column, a chair, &c., or in a variety of ways a little inclination may be induced, and curved flowing lines secured. In standing, the weight of the body should rest on one foot; this will secure a more perfect sensation of ease and balance than can possibly be obtained when the figure is supported on both feet. Whatever action may be desired in the model should not be secured at the expense of ease; there can be no grace or pictorial effect in the suggestion of an over-strained muscle or dislocated limb.

As regards the question of composition, the greater the simplicity the more perfect will be the result. Elaboration or complexity is undesirable at all times in portraiture, and in photographic portraiture especially so. It is, however, an important point, that a proper balance of lines, and of light and dark be secured. If all the lines in a picture tended in one direction, a most uncomfortable effect would be produced; or if all the objects or masses were accumulated at one side,

leaving the other bare and empty, the result would be just as unsatisfactory. All pictures should have at least one principal light, to which all the rest is subordinate. This, in portraiture, is generally the face, upon which the chief interest is supposed to be concentrated. The light may be repeated in varying forms and more subdued degree, so as to carry them throughout the picture, a general principle of chiaroscuro requiring that some light should be carried into the deepest shadows, and *vice versa*. It is desirable, also, that the weight, or heaviest part of the picture, both in colour and form, should be at the base. Thus, the standing figure of a man unsupported by accessories, is very uncomfortable-looking; the picture requires a broader base; this may be secured by the arrangement of accessories, or even by the simple resource of a stick or umbrella in his hand, placed at an angle with the body. The best effect is produced when the darkest masses are arranged at the bottom of the picture, as that also tends to the production of equilibrium or balance. Let it be distinctly remembered, however, that these and all other effects in composition must appear natural, and, of course, the artifice must not be seen. The veriest smatterers in art have an impression that the pyramidal form is the most satisfactory in composition; but it

requires the skill of an experienced artist to secure the effect without obtruding the means.

Contrast is an important element in pictorial effect; contrast in lines, and contrast in tones. The value of curved lines will be best made apparent by contrasting them with straight lines; relief, vigour, and brilliancy are obtained by due contrast and variety of tones. Contrasts, however, should never be harsh or violent. Masses of black and white brought crudely together, without gradation of any kind, certainly produce contrasts; but without anything of pictorial effect. One of the most important qualities in a picture is *breadth*, of which crude and harsh contrasts are entirely destructive. The immediate juxtaposition of black and white draperies or accessories should, therefore, be as much as possible avoided. Both are necessary in a picture; but they should always be more or less graduated in their approach to each other. For this reason the background of a photograph is generally best of a middle tint, which does not contrast harshly with either dark or light draperies.

An important element in securing the harmonious contrast of tones is the judicious lighting of the model. By all means avoid a direct front light, which is destructive of all relief. Let the light fall on the model at an angle of about  $45^{\circ}$ ;

direct vertical light should be carefully avoided ; side light may, on the other hand, be freely used. Direct light, it should be remembered, gives force ; diffused light, softness. The best results are obtained by judiciously combining the two ; direct light to give forms or contours, diffused light to give texture. Too much diffused light leads to flatness and tameness, by weakening the shadows. Some positive light and shadow are necessary to force and vigour.

In the small full-length portraits now fashionable, a variety of accessories and pictorial backgrounds are permissible. In the use of these, one of the most important things is the preservation of *keeping*, by the combination of such pictorial effects in the background, and such accessories only as are harmonious with each other, and with the character of the sitter. Nothing can be more ludicrously incongruous than the combinations sometimes perpetrated ; the furniture of a drawing room apparently standing on the sea shore ; a lady in evening dress standing amid Swiss mountains ; a stolid old gentleman sitting amid vases, balustrades, &c., all wreathed with flowers. Or even when keeping is preserved in these respects, it is not uncommon to see gross violations of all possible perspective ; objects in the background *lighted from one side*, whilst the model is lighted

from the opposite direction, &c. It is not necessary, because a column, a curtain, or a chair are really good of their kind, and free from the common-place or vulgar in design and style, that they should appear in every picture; nor because a balustrade is real and well designed, that it should be obtruded in advance of the sitter. Variety is desirable in accessories, both as regards colour and form, so as to be readily able to meet the exigencies of composition. In using painted backgrounds, care should be taken that the light and shadow correspond with that on the model, and it is desirable to avoid designs such as foregrounds of tessellated pavement, which show, in a very definite manner, the exact direction of the perspective lines, and thus suggest one point of light for the landscape, and another for the figure.\* The carpet, or whatever may be used for the foreground, should be dark in colour, and not of a pattern too strikingly defined.

In grouping for portraiture, the small portraits of which we have been speaking permit the exercise of considerable discretion, and render the

\* Mr. Newman, we understand, undertakes commissions for artistic backgrounds, designed on the suggestion of the photographer or otherwise, and executed by competent artists. Photographers will find it wise in ordering such backgrounds to explain the peculiarities of lighting, &c., which characterise their rooms.



task less difficult than in larger photographic groups. Fewer accessories are necessary for the purposes of composition, the balance of the picture being generally obtained by the arrangement of the figures. Variety may be obtained by the contrast of sitting and standing figures, by full face and profile figures, &c. &c.

These short hints and brief statement of general principles will, it is hoped, be found useful to many photographers.

### CONCLUDING REMARKS.

**Repetition.** THE general principles regarding colouring herein enunciated have been, at the risk of redundancy and repetition, sometimes reiterated in the instructions for different methods of colouring. Where such reiteration has been avoided, the reader will remember that the principles are not the less applicable throughout, and that the instructions for one style of colouring will often be found to contain hints equally applying to all styles. Bearing this in mind, it will be found, we think, that nothing which could aid the amateur in obtaining a practical knowledge of the subject has been omitted from the book. Success must depend on the individual, and, after close attention to the instructions, will result from natural aptitude, care, and perseverance.

**Condition of  
success.**



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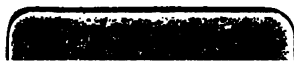
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